

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF INDIANA
INDIANAPOLIS DIVISION
CASE NO. 1:23-cv-00595-JPH-KMB

K.C., et al.,)
)
Plaintiffs,)
)
-vs-)
)
THE INDIVIDUAL MEMBERS OF THE)
MEDICAL LICENSING BOARD OF)
INDIANA, in their official)
capacities, et al.,)
)
Defendants.)

The deposition upon oral examination of PAUL W. HRUZ, M.D., PH.D., a witness produced and sworn before me, Dianne Lockhart, RMR, CRR, a Notary Public in and for the County of Marion, State of Indiana, taken on behalf of the Plaintiffs via videoconference in Manchester, St. Louis County, Missouri, on the 1st day of June, 2023, commencing at 9:30 a.m. pursuant to the Federal Rules of Civil Procedure.

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26 MODERATOR: Kim Rocke
27 Circle City Reporting

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1 PAUL W. HRUZ, M.D., P.H.D., having
2 been first duly sworn to tell the truth, the
3 whole truth and nothing but the truth relating to
4 said matter, was examined and testified as
5 follows:
6 DIRECT EXAMINATION,
7 QUESTIONS BY CHASE STRANGIO:
8 Q Hi. Good morning, Dr. Hruz. Good to see you. I
9 know we've met before. My name is Chase
10 Strangio. I am with the ACLU based in New York
11 representing the plaintiffs in this case and will
12 be asking you some -- some questions today.
13 As we -- we noted earlier, we have Ken Falk
14 from the ACLU of Indiana also here on Zoom, as
15 well as some law student interns.
16 Just to get us started, can you state and
17 spell your full name for the record, please.
18 A Paul -- excuse me. Paul William Hruz, H-R-U-Z.
19 Q And you've had your deposition taken before; is
20 that right?
21 A That is correct.
22 Q So generally you know how this process goes.
23 A Yes.
24 Q But just for the sake of laying all the ground
25 rules for today, I'm just going to run through a

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1 few things to make sure we are on the same page,
2 if that's okay with you.
3 A Very good.
4 Q So when answering my questions, as you know, we
5 have a court reporter here, so I ask that you
6 respond verbally. You know, nods and other sort
7 of uh-uhms don't show up on the record, so can
8 you agree to that?
9 A Yes.
10 Q And also to help the court reporter, if you could
11 wait until I finish my question before answering,
12 as best we can not interrupt each other, that
13 will make everything easier, so hopefully we can
14 do that as well.
15 A I will do my best to do so.
16 Q And if you don't understand my question, which is
17 very possible, at any given time please let me
18 know and I can try to word it differently, but if
19 you do answer, I will assume you understood it.
20 Does that sound okay to you?
21 A Yes.
22 Q And are you feeling okay today?
23 A Yes.
24 Q And are you on any medication or is there any
25 reason why your ability to answer truthfully

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1 today would be impaired?

2 A No.

3 Q And is there any reason you don't feel like you

4 could give complete and truthful testimony today?

5 A No. I think I'm prepared.

6 Q Okay. And just one logistical point. We have

7 Kim here on -- who's going to be uploading the

8 exhibits for us as we need them. If at any point

9 it's not clear to you or you need to zoom in,

10 just let Kim know and we can make sure it's

11 visible to you.

12 MR. STRANGIO: And, John, do you have all of

13 the exhibits? I forwarded them over this

14 morning.

15 MR. RAMER: Yes, yes, I believe I have them

16 all. I got the exhibits, so.

17 MR. STRANGIO: Okay. Great. So we're --

18 logistically I'm impressed with the start

19 already.

20 Q So, and, Doctor, if there comes a time, of

21 course, during the deposition when you need a

22 break, let me know. I just ask that you finish

23 answering the question that I've asked you before

24 we take the break. Does that sound okay?

25 A Very good.

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1 Q Okay. So I think that's it for the basics. I

2 thought we could start just with a few background

3 questions on your involvement in this case.

4 As I understand it, you've been retained by

5 the defendants as an expert in this case; is that

6 right?

7 A That is correct.

8 Q And how did you -- how did you come to be

9 retained in this case?

10 A One of the lawyers from the DA's office, I think

11 it was Corrine Youngs, contacted me asking me if

12 I would be involved.

13 Q And when was that?

14 A I don't recall the exact date. It was shortly

15 after the lawsuit was filed.

16 Q Okay. Understood. And you're aware that this is

17 a case that concerns a challenge to an Indiana

18 law called Senate Enrolled Act 480?

19 A Correct.

20 Q And when this -- when this law was pending in the

21 Indiana legislature, did you take any public

22 positions on the bill?

23 A No.

24 Q Did you testify in support of the bill?

25 A No.

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1 Q Have you ever spoken with a member of the Indiana

2 legislature about Senate Enrolled Act 480?

3 A Not that I'm aware of, no.

4 Q And did you speak with anyone about Senate

5 Enrolled Act 480 while it was pending, to your

6 knowledge?

7 A Not while it was pending, no.

8 Q And what is your understanding of what Senate

9 Enrolled Act 480 does?

10 A Well, it's a -- again, I'm not testifying as a

11 legislator or a lawyer, but my understanding is

12 it -- it deals with the provision of

13 gender-affirming medical care and recognizing

14 the -- the harms, lack of proven benefit of that,

15 and therefore legislating that that type of

16 intervention not be delivered in the state of

17 Indiana.

18 Q And what did you do to prepare for your

19 deposition today?

20 A I read through my declaration that I recently

21 submitted. I'm constantly reviewing the

22 literature, so I continued in that process, as

23 I've done for many years. And I had a phone

24 conversation with -- with John earlier this week.

25 Q And you said you had a conversation with John.

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1 Without telling me what -- what you discussed,

2 for how long did you -- did you speak with John,

3 about?

4 A Somewhere between 30 and 45 minutes.

5 Q And was that the only conversation with John

6 about this deposition that you had?

7 A We had some email communication just to know the

8 date, the time, the logistics and just the

9 details of this deposition today.

10 Q And did you speak with anyone else at the -- or

11 anyone, I guess, at the Indiana AG's office about

12 the deposition?

13 A Some email correspondence, again, the details,

14 getting the link and -- and the timing.

15 Q And other than counsel, did you speak with anyone

16 about your testimony here today?

17 A No.

18 Q Did you review any documents other than your

19 declaration and your ongoing review of the

20 literature?

21 A Well, I at some point reviewed the declarations

22 that were provided by the plaintiff witnesses

23 and, again, just reviewing the literature in this

24 field as it continues to evolve.

25 Q And do you have anything with you today while

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1 we're doing this deposition?

2 A I have nothing physically with me. The only

3 document I have that is not opened right now but

4 is on my computer is my declaration.

5 Q Okay. Understood. And so if you at any point

6 consult something, I may ask you about it and --

7 and would ask that you then just turn that over

8 to us, but for now I understand the only thing

9 that you may look at is your declaration; is that

10 right?

11 A That is correct.

12 Q Okay. So I want to just mark some exhibits to

13 get us started that we'll probably be referencing

14 throughout the day and try to make it a little

15 easier, just to get that out of the way.

16 MR. STRANGIO: So if -- if, Kim, you could

17 pull up what is premarked as Exhibit 1, that

18 would be great. And so I want to go ahead mark

19 this as Exhibit 1 and -- we're almost there. We

20 saw it and then --

21 Q Okay. Dr. Hruz, do you recognize this document?

22 A This looks like the first page of my declaration

23 in this case.

24 MR. STRANGIO: And -- and, Kim, if you could

25 just scroll -- you can see it's 52 pages. Maybe

Page 11

1 just scroll through a little bit.

2 Q And does this appear to be, Dr. Hruz, a true and

3 accurate copy of the declaration that you filed

4 in this case?

5 A That which I'm able to see, yes.

6 Q Okay. And -- and who wrote this declaration?

7 A I did.

8 Q Did anyone help you?

9 A There was some formatting and typographical

10 editing, but this is my work product.

11 Q And did you discuss it with anyone?

12 A Yes, I did, with the -- with John and the

13 defendant lawyers.

14 Q And did you discuss it with any of the other

15 experts retained by the defendants in this case?

16 A No.

17 Q And does this declaration represent a complete

18 statement of the opinions you intend to provide

19 in this matter?

20 A Yes.

21 Q And are you aware of any inaccuracies in the

22 declaration that you submitted?

23 A It is accurate and complete to the best of my

24 knowledge.

25 Q I know that you just filed it last week, but has

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1 anything changed since you filed it?

2 A No.

3 Q And so nothing you would like to amend or

4 correct?

5 A That is correct.

6 MR. STRANGIO: Okay. If we could pull up

7 Exhibit 2, Kim. Thank you.

8 Q So, Doctor, does this -- what is this document?

9 A This is a recent copy of my curriculum vitae.

10 Q And I see it's dated 5-26-23. Is that current as

11 of today's date as well, June 1, 2023?

12 A Yes. There's been -- there have been no

13 additions in the last week.

14 Q And so nothing missing from it?

15 A At best I know, correct.

16 Q And in the past year, you have testified in two

17 trials related to the provision of

18 gender-affirming medical care to adolescents; is

19 that right?

20 A That is correct.

21 Q And that would be the Brandt case in Arkansas and

22 the Dekker case in Florida?

23 A That is correct.

24 MR. STRANGIO: And so I want to pull up what

25 is marked as Exhibit 3.

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1 Q And does this, Dr. Hruz, appear to be your

2 testimony -- and we'll scroll through actually a

3 little bit, but your testimony from the Brandt

4 case in Arkansas?

5 A I don't know that I've seen this document, but

6 from what I can see here, that's what it looks

7 like, yes.

8 Q And then we can see -- just so you see the

9 beginning. So this looks like, as you recall,

10 your direct examination in the -- in the Arkansas

11 trial; is that right?

12 A Well, what I see is very limited, but that's what

13 it appears to be, yes.

14 Q And was the testimony that you gave in the Brandt

15 case accurate?

16 A Yes, to the best of my ability, yes.

17 MR. STRANGIO: And I want to now pull up

18 what's marked as Exhibit 4.

19 And, Kim, if you could just scroll through a

20 little bit. I think it's going to be about 15 or

21 so pages in. You can see at the top when it

22 reaches Paul Hruz Direct.

23 Q But so looking at this document as we scroll

24 through it, Dr. Hruz, does this appear to be the

25 transcript of your testimony at the Dekker trial

<p style="text-align: right;">Page 14</p> <p>1 in Florida?</p> <p>2 A Well, again, I've not previously seen this</p> <p>3 document, but what we're scrolling through here</p> <p>4 looks like a reflection of what was testified in</p> <p>5 that case.</p> <p>6 Q And was the testimony that you gave in the Dekker</p> <p>7 case accurate?</p> <p>8 A Yes, to the best of my knowledge.</p> <p>9 Q Okay. I think we can -- we can take -- we can</p> <p>10 take this down for now and we'll come back to</p> <p>11 some of these exhibits. I just wanted to -- to</p> <p>12 get that out of the way.</p> <p>13 So you -- you mentioned that you've been</p> <p>14 deposed before. How many -- how many times,</p> <p>15 would you say?</p> <p>16 A That's listed in my declaration as far as the</p> <p>17 cases that I've been deposed or have testified at</p> <p>18 trial.</p> <p>19 Q And nothing other than what's listed in your</p> <p>20 declaration?</p> <p>21 A I'm trying to -- there were a couple of cases</p> <p>22 many years ago that were unrelated to gender</p> <p>23 issues. I didn't keep records at that time, but</p> <p>24 I tried to put everything in there that I can</p> <p>25 recall.</p>	<p style="text-align: right;">Page 16</p> <p>1 A My attempt was to be as complete in everything</p> <p>2 that I can recall from my records of the cases</p> <p>3 that I've been involved in.</p> <p>4 Q And were you involved as an expert in the</p> <p>5 Tavistock case in the United Kingdom?</p> <p>6 A I was not deposed and I did not testify. I</p> <p>7 provided information for them related to the</p> <p>8 relative risks and benefits of gender-affirming</p> <p>9 care within my area of expertise.</p> <p>10 Q And are there any other cases where you're</p> <p>11 currently working on expert reports or have been</p> <p>12 retained but they have not yet been submitted?</p> <p>13 A Yes.</p> <p>14 Q And what are those?</p> <p>15 A There's a case in Alabama and Tennessee.</p> <p>16 Q And have you ever reached out to any of the</p> <p>17 government officials in these cases and offered</p> <p>18 yourself as an expert witness?</p> <p>19 MR. RAMER: Objection to form.</p> <p>20 A No. In each of the cases I have been contacted.</p> <p>21 I've actually tried very hard with my schedule to</p> <p>22 limit my -- my involvement, but, no, I've not</p> <p>23 reached out to anybody to participate.</p> <p>24 Q And currently about how many hours per week do</p> <p>25 you spend serving as an expert witness in cases?</p>
<p style="text-align: right;">Page 15</p> <p>1 Q And these cases a number of years ago, you said</p> <p>2 they're not related to gender dysphoria. What</p> <p>3 were they related to?</p> <p>4 A There was a case related to an adverse event in a</p> <p>5 patient with diabetes. There was a case</p> <p>6 involving adverse effects of treatment with an</p> <p>7 antipsychotic medication leading to metabolic</p> <p>8 disorders. There was a case related to</p> <p>9 medication effects causing gynecomastia.</p> <p>10 Q And were you serving as an expert witness in</p> <p>11 these cases?</p> <p>12 A Yes, I was.</p> <p>13 Q In all of them?</p> <p>14 A In the ones that I just mentioned. And there was</p> <p>15 also one on congenital hypothyroidism, as I</p> <p>16 recall.</p> <p>17 Q And are there any other cases in which you were</p> <p>18 involved as an expert witness but you were not</p> <p>19 deposed?</p> <p>20 A I'm trying to remember if I actually -- in the</p> <p>21 South Dakota case actually was deposed or not.</p> <p>22 That case was closed prior to completion, so.</p> <p>23 Q I do believe you were deposed in that case, but</p> <p>24 no other cases other than the general ones that</p> <p>25 you've listed out on your declaration?</p>	<p style="text-align: right;">Page 17</p> <p>1 A It's quite variable. I would say that it's -- it</p> <p>2 could be anywhere from a couple of hours. I</p> <p>3 don't -- I'd have to look at -- at how many hours</p> <p>4 I do. My -- my necessity in my role, because my</p> <p>5 full-time job is a pediatric endocrinologist and</p> <p>6 physician scientist at Washington University and</p> <p>7 that is my primary responsibility, so all of my</p> <p>8 involvement in this work is done on my private</p> <p>9 time and trying to balance those</p> <p>10 responsibilities, so it's less than one day a</p> <p>11 week.</p> <p>12 Q And so far in -- in 2023, do you have an</p> <p>13 estimation of about how many hours you've spent</p> <p>14 serving as an expert witness?</p> <p>15 A I don't have an exact number of that, no.</p> <p>16 Q But is it more than 200 hours?</p> <p>17 A No.</p> <p>18 Q More than 100?</p> <p>19 A Again, I would have to look -- look back. I</p> <p>20 would say that -- I wouldn't be able to know that</p> <p>21 off the top of my head.</p> <p>22 Q But approximately one day a week you would say on</p> <p>23 average?</p> <p>24 A I would say less than one day a week.</p> <p>25 Q Understood. And have you ever testified in any</p>

<p style="text-align: right;">Page 18</p> <p>1 state legislatures over legislation concerning</p> <p>2 transgender people or treatment of gender</p> <p>3 dysphoria?</p> <p>4 A There was only one time in Arizona where I did</p> <p>5 testify to the scientific evidence related to an</p> <p>6 issue involving gender care.</p> <p>7 Q And when was that?</p> <p>8 A Probably a year and a half ago. I don't have the</p> <p>9 exact date.</p> <p>10 Q But within the last three years?</p> <p>11 A Correct.</p> <p>12 Q And was that on a bill concerning the provision</p> <p>13 of gender-affirming care to minors?</p> <p>14 A Yes.</p> <p>15 Q So what -- what is your current job, Dr. Hruz?</p> <p>16 A I am a pediatric endocrinologist and academic</p> <p>17 physician scientist at Washington University.</p> <p>18 And my professional responsibilities involve</p> <p>19 direct patient care, scientific research and</p> <p>20 education of trainees, residents, fellows and</p> <p>21 medical students, and I also have some</p> <p>22 administrative responsibilities.</p> <p>23 Q And how long have you held that current position?</p> <p>24 A Which current position? I've been at Washington</p> <p>25 University since 1997, and I joined the faculty</p>	<p style="text-align: right;">Page 20</p> <p>1 Endocrinology and Diabetes, those administrative</p> <p>2 responsibilities have -- have decreased as well.</p> <p>3 MR. STRANGIO: And -- and if we could pull</p> <p>4 up Exhibit 2, page 1 of -- this is your CV again.</p> <p>5 THE MODERATOR: I'm sorry, I didn't catch</p> <p>6 what you said.</p> <p>7 MR. STRANGIO: Sorry. If you could pull up</p> <p>8 Exhibit 2 and go to page 1, Kim. Thank you. And</p> <p>9 scroll down just a bit.</p> <p>10 Q Okay. So here on the academic positions and</p> <p>11 employment, it looks like prior to 1997 you were</p> <p>12 with a physician group in Seattle; is that right,</p> <p>13 Dr. Hruz?</p> <p>14 A That was during my residency training. I was</p> <p>15 doing some moonlighting work in a neonatal</p> <p>16 intensive care unit.</p> <p>17 Q And between 1997 and 2000, there's nothing listed</p> <p>18 in your employment. What were you doing during</p> <p>19 those years?</p> <p>20 A I was in my fellowship training at Washington</p> <p>21 University in St. Louis.</p> <p>22 Q So you arrived at Washington University in 1997?</p> <p>23 A That is correct.</p> <p>24 Q And I know that -- that you have just said this</p> <p>25 in some -- to some effect, but is it correct that</p>
<p style="text-align: right;">Page 19</p> <p>1 in 2000, so I've been at Washington University my</p> <p>2 entire career.</p> <p>3 Q And have you had the same responsibilities for</p> <p>4 your entire career at Washington University?</p> <p>5 A No. I was formerly the chief of our Division of</p> <p>6 Endocrinology and Diabetes. I did that for five</p> <p>7 years. I also previously served as the director</p> <p>8 of our fellowship program. That's a position</p> <p>9 I -- I am currently serving as associate</p> <p>10 director. And the division of my labor has --</p> <p>11 has changed over the years as far as the</p> <p>12 partitioning of time spent in research versus</p> <p>13 clinical care versus teaching.</p> <p>14 Q And currently what is the division of your time</p> <p>15 between research, clinical care and teaching?</p> <p>16 A Currently I'm doing more patient care. As my</p> <p>17 research career has evolved, I've become involved</p> <p>18 in drug discovery efforts. Many of these efforts</p> <p>19 do not require a hands-on presence in my</p> <p>20 laboratory, rather with collaborations and</p> <p>21 involvement with contract research organizations.</p> <p>22 My time, because I'm the associate director and</p> <p>23 not director of the fellowship program, requires</p> <p>24 somewhat less involvement. And certainly since I</p> <p>25 stepped down as chief of the Division of</p>	<p style="text-align: right;">Page 21</p> <p>1 you are an endocrinologist?</p> <p>2 A I'm a pediatric endocrinologist, correct.</p> <p>3 Q And so what conditions as a pediatric</p> <p>4 endocrinologist do you treat patients for?</p> <p>5 A So as a pediatric endocrinologist, we treat</p> <p>6 patients from birth all the way to the early 20s</p> <p>7 involving disorders of the endocrine system. By</p> <p>8 that, that means disorders that involve hormones</p> <p>9 that are secreted from one part of the body,</p> <p>10 circulated through the bloodstream and act</p> <p>11 distally at other organs. It includes the</p> <p>12 treatment of patients with metabolic disorders,</p> <p>13 diabetes mellitus, dyslipidemia, pubertal</p> <p>14 disorders, thyroid disorders, disorders of the</p> <p>15 pituitary gland, disorders of sexual development,</p> <p>16 a whole -- bone diseases. I tried to outline in</p> <p>17 my declaration the scope, and that's contained</p> <p>18 within that document.</p> <p>19 Q And you mentioned that you treat patients up</p> <p>20 to -- to their early 20s; is that -- is that</p> <p>21 right?</p> <p>22 A We will generally follow patients through</p> <p>23 college, and I have a few patients that I -- with</p> <p>24 very complex disorders that are rare enough that</p> <p>25 the adult physicians are not familiar with caring</p>

<p style="text-align: right;">Page 22</p> <p>1 for that, so we will, on rare exceptions, see</p> <p>2 them even later than that, but, in general, we</p> <p>3 try to transition them to adult care by the time</p> <p>4 they finish college.</p> <p>5 Q And is it common, would you say, for</p> <p>6 pediatricians to see patients after the age of</p> <p>7 18?</p> <p>8 MR. RAMER: Objection to form.</p> <p>9 A Yes. So at least in my profession as a pediatric</p> <p>10 endocrinologist at an academic center, we will</p> <p>11 recognize that much of the development that</p> <p>12 occurs is not completed at age 18. I know that</p> <p>13 many primary care pediatric practices will</p> <p>14 require patients to transition to adult care as</p> <p>15 they turn 18, but that is not the case at -- at</p> <p>16 Washington University, nor most other academic</p> <p>17 centers.</p> <p>18 Q And you're not a psychiatrist; right?</p> <p>19 A I have not been formally trained or certified in</p> <p>20 psychiatry. My limitation in addressing</p> <p>21 psychiatric issues relates to my practice as a</p> <p>22 pediatric endocrinologist. I do need to have</p> <p>23 some familiarity with psychiatric conditions as</p> <p>24 it pertains to the proper care of my patients.</p> <p>25 Q But just as to certified, you are not a</p>	<p style="text-align: right;">Page 24</p> <p>1 them to the care that they need, I think that's a</p> <p>2 role that all pediatric endocrinologists are</p> <p>3 involved in.</p> <p>4 Q And so you treat patients for endocrine</p> <p>5 conditions that also have co-occurring mental</p> <p>6 health conditions?</p> <p>7 A I certainly have encountered patients that have</p> <p>8 endocrine disorders that also have psychiatric</p> <p>9 conditions, and in some situations it directly</p> <p>10 affects the care of that patient, yes.</p> <p>11 Q And do you have any formal educational training</p> <p>12 in the provision of mental health treatment?</p> <p>13 A I think all medical students in part of their</p> <p>14 training rotate in psychiatry and have experience</p> <p>15 in psychology in their training, and it is also</p> <p>16 something that occurs throughout one's career.</p> <p>17 In fact, we have monthly psychosocial rounds</p> <p>18 where we -- in fact, we're having one this</p> <p>19 afternoon where we're presenting psychosocial</p> <p>20 issues that are affecting the care of our</p> <p>21 patients with diabetes.</p> <p>22 Q So other than in medical school and in ongoing</p> <p>23 rounds in your clinical practice, do you have any</p> <p>24 formal training with respect to the provision of</p> <p>25 mental healthcare?</p>
<p style="text-align: right;">Page 23</p> <p>1 psychiatrist?</p> <p>2 A I'm not a certified psychiatrist, correct.</p> <p>3 Q And you're not a psychologist?</p> <p>4 A I am not a certified psychologist, correct.</p> <p>5 Q And you're not an uncertified psychologist</p> <p>6 either, I assume?</p> <p>7 MR. RAMER: Objection to form.</p> <p>8 A I would say all physicians participate in</p> <p>9 psychological issues in the care of their</p> <p>10 patients, so to that extent, it's limited to my</p> <p>11 role as a pediatric endocrinologist.</p> <p>12 Q And would you say it's common for physicians in</p> <p>13 different specialties to have experience with</p> <p>14 mental health conditions?</p> <p>15 MR. RAMER: Objection to form.</p> <p>16 A I would say that as a pediatric endocrinologist,</p> <p>17 that many of my patients have psychiatric</p> <p>18 comorbidities that significantly influence their</p> <p>19 ability to enter into and adhere to the treatment</p> <p>20 recommendations. I frequently encounter patients</p> <p>21 that are significantly affected by these</p> <p>22 psychiatric conditions. I've certainly in</p> <p>23 evaluating, for example, endocrine disorders,</p> <p>24 menstrual irregularities that are due to</p> <p>25 anorexia, being able to recognize that and get</p>	<p style="text-align: right;">Page 25</p> <p>1 A They also have many times in our pediatric and</p> <p>2 medicine grand rounds delivered topics related to</p> <p>3 those issues as well. It's part of some of the</p> <p>4 questioning in maintenance of certification, and</p> <p>5 so I would say that I do have ongoing exposure to</p> <p>6 these issues, again, as it pertains to my</p> <p>7 practice as a pediatric endocrinologist.</p> <p>8 Q Would you consider yourself an expert in -- in</p> <p>9 the provision of mental health care?</p> <p>10 A It depends on -- on how you define expert. I am</p> <p>11 a pediatric endocrinologist and I deliver care to</p> <p>12 patients that have endocrine disorders. Patients</p> <p>13 will not come to me primarily for psychiatric</p> <p>14 conditions.</p> <p>15 Q So you don't primarily treat patients for</p> <p>16 psychiatric conditions?</p> <p>17 A As I just said, I treat patients with endocrine</p> <p>18 diseases and I do not treat patients that come</p> <p>19 primarily for psychiatric conditions.</p> <p>20 Q Do you have any education or training related to</p> <p>21 the treatment of gender dysphoria?</p> <p>22 A This is -- the topic of gender dysphoria has been</p> <p>23 very active over the last decade, and I --</p> <p>24 actually my involvement, my entry into this field</p> <p>25 came at the time that I was chief of our Division</p>

<p style="text-align: right;">Page 26</p> <p>1 of Endocrinology and Diabetes, where one of my 2 faculty members approached me asking to develop a 3 gender center at our institution. It 4 necessitated me to look at the literature in this 5 field to make an assessment about the proposal 6 that was being made, and that process has 7 continued over the last decade. I have 8 participated in both discussions of this topic at 9 local, national and international meetings.</p> <p>10 Q So you consider your training related to gender 11 dysphoria in -- to be the review of the 12 literature related to the topic; is that what I'm 13 understanding?</p> <p>14 MR. RAMER: Objection to form.</p> <p>15 A Are you asking me if -- if my understanding of 16 gender dysphoria is limited to reading papers, is 17 that what the question is?</p> <p>18 Q No, that's not the question, because I asked you 19 do you have any education or training related to 20 gender dysphoria and you responded by explaining 21 that you had reviewed the literature, so I'm 22 trying to understand what is the education or 23 training that you've received with respect to 24 gender dysphoria?</p> <p>25 MR. RAMER: Objection to form.</p>	<p style="text-align: right;">Page 28</p> <p>1 I've certainly cared for patients that have 2 gender dysphoria in the context of endocrine 3 disorders that they have, including dyslipidemia, 4 diabetes, thyroid disease and obesity, but, 5 again, these patients are not coming to me 6 specifically for the treatment of gender 7 dysphoria.</p> <p>8 Q So let's take it in -- in sequence. So have you 9 ever prescribed hormonal interventions to treat 10 gender dysphoria in an adolescent?</p> <p>11 A As I made very clear in my declaration, in my 12 investigation into the affirmative model for 13 gender-affirming care, I have concluded that the 14 relative risks versus purported benefits do not 15 support engagements in that activity, and because 16 of that, it would be unethical for me to be able 17 to deliver care that I have deemed not 18 appropriate for patients.</p> <p>19 Q I didn't ask you why. Just as a yes or no 20 question, have you ever prescribed hormonal 21 interventions to treat a patient who is an 22 adolescent for gender dysphoria?</p> <p>23 MR. RAMER: Objection to form.</p> <p>24 A For the -- for the reason I just stated, I do not 25 provide any medical care that I deem that is not</p>
<p style="text-align: right;">Page 27</p> <p>1 A It's similar to how I addressed your question 2 about other areas of psychiatric care. This 3 involves my participation in formal presentations 4 at medicine and pediatric grand rounds, 5 discussions of this topic at national and 6 international meetings, direct conversations with 7 my colleagues and those in other specialties, in 8 addition to my reading of the literature.</p> <p>9 Q Have you ever delivered a grand round related to 10 the topic of gender dysphoria?</p> <p>11 A Yes, I have.</p> <p>12 Q Where was that?</p> <p>13 A I've done several. Off the top of my head, I did 14 a medical grand rounds at the University of 15 Kentucky, at the school in Texas, at St. Louis 16 University. I'm trying to think of all the -- I 17 tried to list them in my CV, and you'll probably 18 find that further down in the document that's 19 currently displayed here.</p> <p>20 Q And have you ever treated a patient for gender 21 dysphoria?</p> <p>22 A Well, I -- if I understand your question, you're 23 asking if I've delivered medical affirmation 24 interventions involving hormones, is that the 25 question?</p>	<p style="text-align: right;">Page 29</p> <p>1 justified by a risk/benefit analysis, and that 2 includes gender-affirming care in the role of an 3 endocrinologist.</p> <p>4 MR. STRANGIO: Just for simplicity, to get 5 the clearest possible answer, if we could pull up 6 Exhibit 3, Kim, and if you could go to page 106. 7 And so if we could scroll down to line 21.</p> <p>8 Q So this is the transcript from the Brandt trial. 9 And I asked you, "And you've never treated a 10 patient for gender dysphoria; correct?"</p> <p>11 And then your answer was, "Not for gender 12 dysphoria, correct."</p> <p>13 Anything different about your answer today?</p> <p>14 A My answer is entirely consistent with what I 15 testified in that case, which I just shared with 16 you.</p> <p>17 Q So you've --</p> <p>18 MR. RAMER: Sorry, Chase, just to clarify, 19 it's page 106 in the PDF and this is page 1317 in 20 the transcript.</p> <p>21 MR. STRANGIO: Correct.</p> <p>22 MR. RAMER: Okay. Thank you.</p> <p>23 MR. STRANGIO: Yeah, sorry. I was trying to 24 make it easy for the court reporter and did not 25 make it easy for you or the record. Yes, so this</p>

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1 is page 1317.
2 Q So -- so when you said that at the Brandt trial
3 that you have -- you have not treated a patient
4 for gender dysphoria, that is your position
5 today?
6 A As I have already stated to you, correct.
7 Q And have you ever diagnosed anyone as having
8 gender dysphoria?
9 A Are you asking me whether I've gone through the
10 checklist in the DSM-5 to formally determine
11 whether one has that -- that condition?
12 Q Yes. Have you ever gone through the criteria in
13 the DSM-5-TR and made a diagnosis of gender
14 dysphoria for a patient?
15 A Well, since I'm a pediatric endocrinologist, that
16 is not within my purview and so, no, I have not
17 done that.
18 Q And I think you sort of alluded to this earlier,
19 but have you ever had a patient under your care
20 that someone else diagnosed with gender
21 dysphoria?
22 MR. RAMER: Objection to form.
23 A So I certainly have cared for individuals that
24 present to me informing me that they have
25 sex-discordant gender identity and I provided

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1 care with them. My discussions and treatment has
2 been focused upon the presenting endocrine
3 disorder and that's where the focus of my care
4 has been. We've not delved into any greater
5 detail about who made the diagnosis, who was
6 treating them for other issues except as it
7 relates to the presentation of the endocrine
8 disorder that I'm being asked to care for.
9 Q So for those patients that are under your care
10 for an endocrine condition that's not gender
11 dysphoria, have any of them been treated with
12 gender-affirming hormone therapy?
13 MR. RAMER: Objection to form.
14 A So I am -- for example, we have patients that
15 have type 1 diabetes that also experience
16 sex-discordant gender identity that have been
17 admitted to our psychiatric unit that have been
18 receiving gender-affirming hormonal
19 interventions, and my role in those cases is
20 making sure that their diabetes is adequately
21 cared for while they're being hospitalized. It
22 has not been my responsibility to supervise or
23 change the administration of that
24 gender-affirming hormonal medication.
25 Q And other than in an inpatient context, any of

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1 your patients that you treat for, say, diabetes
2 also have a gender dysphoria diagnosis that
3 they're being treated for hormone therapy with?
4 A So if you're asking me if it's limited to the
5 inpatient setting, no. I also have seen patients
6 in my outpatient setting who express
7 sex-discordant gender identity that I care for
8 other diseases, including type 1 diabetes.
9 Q And some of those patients are being treated with
10 hormone therapy?
11 A As -- yes.
12 Q And have you ever been physically present for a
13 discussion between a provider and a patient about
14 treatment options for gender dysphoria?
15 A In the setting of my role in cofounding the
16 Disorders of Sexual Development Clinic at
17 Washington University, for many years we would
18 have regular monthly meetings where we discuss
19 care, and some of those discussions did involve
20 issues of sexual identity and -- and how to best
21 manage those patients, so, yes, in that setting I
22 have.
23 Q Other than in that setting?
24 A I'm trying to remember if -- certainly I've had
25 conversations with my trainees, but I have not

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1 participated directly in the gender clinic at
2 Washington University.
3 Q And no conversations with -- with a physician or
4 other provider and a patient; is that correct?
5 A Cannot recall a time where I've -- I've had a
6 conversation with one of my colleagues who is
7 providing care at that gender center together
8 with a patient at that time where they were
9 discussing gender-affirming medical care, that is
10 correct.
11 Q And you've also mentioned this, but you're
12 currently affiliated with the Department of
13 Pediatrics at Washington University School of
14 Medicine in St. Louis; is that -- did I get that
15 right?
16 A My primary appointment is in the Department of
17 Pediatrics as an associate professor.
18 Q And is the St. Louis Children's Hospital the
19 pediatric teaching hospital for Washington
20 University School of Medicine?
21 A That is correct.
22 Q And do you work at the St. Louis Children's
23 Hospital?
24 A My clinic is -- is at the St. Louis Children's
25 Hospital, correct.

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1 Q And there is a transgender clinic at the
2 St. Louis Children's Hospital called the
3 Washington University Transgender Center; is that
4 right?
5 A That is correct.
6 Q And at that center -- excuse me. The Center, the
7 Washington University Transgender Center, treats
8 adolescent patients with gender dysphoria; is
9 that correct?
10 MR. RAMER: Objection to form.
11 A That is my -- that is my understanding, correct.
12 Q And as part of the treatment provided at that
13 clinic, they prescribe pubertal suppression to
14 treat gender dysphoria?
15 A It is my understanding that they are using the
16 affirmative model, which includes the
17 administration of GnRH agonists, also known as
18 puberty blockers, and cross-sex hormones, meaning
19 the administration of estrogen to a biological
20 male and the administration of testosterone to a
21 biological female.
22 Q Are you aware that Missouri has recently passed a
23 law like Senate Enrolled Act 480?
24 MR. RAMER: Objection to form.
25 A I'm aware that -- I don't know the details of the

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1 actual legislation, but I am aware that they have
2 passed legislation in that regard, yes.
3 Q And so -- so under this legislation, hormonal
4 treatment for adolescents with gender dysphoria
5 like the ones we've been discussing will be
6 prohibited in Missouri?
7 MR. RAMER: Objection to form. Calls for a
8 legal conclusion.
9 A Again, I am not a legislator and I don't know the
10 exact details of that legislation. My vague
11 understanding just from news reports that I've
12 read is that this legislation is similar to those
13 that have been passed in multiple other states
14 within the last year.
15 Q So you've not heard any conversations within the
16 hospital where you work about the impact of
17 recent legislation on the care of patients at the
18 Transgender Center?
19 A I certainly have had, as I do in many other
20 areas, hallway conversations with colleagues, but
21 nobody that has any more insight than I do about
22 that legislation.
23 Q So you haven't heard about what's going to happen
24 to patients at the Transgender Care Center if
25 their medical treatment is -- is cut off?

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1 MR. RAMER: Objection to form.
2 A Okay. I will state again that I'm not a
3 legislator, nor a politician. My understanding,
4 again, from what I've read in the news reports is
5 that this care -- or the legislation in Missouri
6 actually has a -- a clause where it is
7 restricting care for new patients. Again, my
8 understanding is that it doesn't apply to people
9 that are currently receiving care, but, again,
10 I'm not up to date on that legislation and I
11 don't know for sure the details.
12 Q I'm not asking about the specifics of the
13 legislation. I'm asking if at your place of
14 employment there's been any communication about
15 the potential changes with respect to the
16 provision of care that you have been made aware
17 of?
18 MR. RAMER: Objection to form.
19 A There has been -- there has been no formal
20 communication from the administration in any way
21 with respect to that legislation.
22 Q And if -- if the -- let me -- let me -- excuse
23 me. So if Missouri were to prohibit the
24 provision of gender-affirming care to adolescents
25 with gender dysphoria, is it your view that the

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1 patients at the Transgender Care Center would all
2 benefit from that change?
3 MR. RAMER: Objection to form.
4 A I think it's a hard question for me to answer
5 since I don't know the specifics of the -- and
6 it's a hypothetical as far as what would happen.
7 I think there are many potential outcomes that
8 could come from the recognition, as I have
9 testified or am testifying in this case, about
10 the known and potential risks of gender-affirming
11 therapies in relation to the purported benefits.
12 There is opportunities on several fronts to be
13 able to shift the focus of care that will be more
14 in alignment with what is being done in Europe
15 and other areas of the world, the provision -- or
16 the engagement in the high quality research that
17 needs to be done and in efforts to be able to
18 find ways to alleviate suffering in this patient
19 population that -- that minimizes risks and
20 maximizes benefit.
21 Q So one potential benefit would be -- excuse me.
22 One potential benefit of prohibiting medical
23 interventions for gender dysphoria would be the
24 initiation of high quality research; is that
25 right?

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1 MR. RAMER: Objection to form.
2 A So there's much potential for engaging into the
3 research that needs to be done to study this
4 condition and optimal interventions to fill in
5 the very notable gaps in the scientific
6 knowledge.
7 I have advocated, actually, for the conduct
8 of proper research studies for many years with my
9 colleagues at Washington University, and this has
10 the potential, if -- to -- to move in the
11 direction of having that -- that approach
12 critically evaluated and the research be
13 conducted.
14 Q So, in general, in the area of treatment of
15 adolescents with gender dysphoria, you're in
16 favor of more research; is that right?
17 A I'm a physician scientist. I'm always in favor
18 of more research. And given the paucity of high
19 quality data in this field, I think it's an
20 imperative that we perform higher quality
21 research studies in this area.
22 Q So when patients are receiving hormonal treatment
23 for gender dysphoria or for any condition, is it
24 safe to have those treatments stopped
25 immediately?

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1 A Well, it depends on -- that's a very broad
2 question. There are many different types of
3 treatments, some of which would be amenable to
4 more immediate cessation.
5 I would say that in the delivery of care
6 with hormonal interventions such as testosterone
7 or estrogen, there is no science about the
8 optimal way that one would wean off of that, but
9 it would make sense, it would be very prudent
10 to -- to do this in a gradual manner. We do have
11 established data on the effects of abrupt changes
12 in sex therapy hormone levels and know the
13 adverse effects on psychological health. The
14 best example that I can give is what we see in
15 postpartum depression.
16 Q So going back to your declaration which is
17 Exhibit 1, Kim, if you could pull -- pull that
18 up. And going to paragraph 11. Sorry, I have it
19 as paragraphs here, not pages.
20 So -- so Dr. Hruz, here you're talking about
21 your experience founding -- as a founding member
22 of the multidisciplinary Disorders of Sexual
23 Development program, and -- and you write -- and
24 I'll read it, so follow -- follow along because
25 it's very likely I'll make a mistake.

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1 "In the care of these patients, I have
2 acquired expertise in the understanding and
3 management of associated difficulties in gender
4 identification and gender transitioning treatment
5 issues."
6 Did I read that correctly?
7 A Yes.
8 Q And the expertise you note here related to what
9 you call gender transitioning treatment issues,
10 that's based on the treatment of patients with --
11 with DSDs; is that right?
12 A Well, I would -- I would not agree that this is
13 gender transitioning. These are issues related
14 to gender identity and trying to make a prudent
15 decision about outcomes where there's significant
16 ambiguity.
17 I think in the condition of disorders of
18 sexual development, this is very distinct from
19 the question of gender dysphoria. In these
20 situations these patients are born with genital
21 ambiguity, many times with much uncertainty as to
22 the actual sexual identity of these individuals,
23 and the goal here is to be able to use all of the
24 information that we have available to make a
25 prudent decision about how they will best be able

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1 to function with their physiology and, again,
2 very different than the question of gender
3 dysphoria, and we would not consider the
4 involvement of these decisions to be a
5 transition. It is trying to correctly identify
6 the actual sexual identity of that individual and
7 how they can best live their life in relation to
8 that.
9 Q So the -- so the expertise that you're discussing
10 in paragraph 11 here is distinct from gender
11 dysphoria?
12 A So -- well, let me -- let me clarify, okay.
13 There are questions related to one's sexual
14 identity and one's understanding of that sexual
15 identity. There is overlap in that regard, but
16 there's a difference in that in disorders of
17 sexual development, one is most often, if not
18 exclusively, dealing with people that have
19 impaired or absent fertility at the time that one
20 is intervening as opposed to those that have
21 gender dysphoria that have normally formed and
22 functioning sexual anatomy prior to the
23 engagement in gender-affirming medical
24 interventions.
25 Q I'm just asking about this paragraph. You're

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1 referring to particular expertise gained in the
2 context of treating individuals with disorders of
3 sexual development; is that right?
4 A This is in relation to issues of gender
5 identification, correct.
6 Q And then moving to paragraph 13, and here at the
7 bottom with the sentence beginning, "Pediatric
8 patients," I'm going to just read this to you.
9 You write, "Pediatric patients referred to our
10 practice for the evaluation and treatment of
11 gender dysphoria are cared for by an
12 interdisciplinary team of providers that includes
13 a psychologist and pediatric endocrinologist who
14 have been specifically chosen for this role based
15 upon a special interest in this patient
16 population."
17 Did I read that correctly?
18 A That is correct.
19 Q And when you say here "referred to our practice,"
20 what practice are you referring to?
21 A So I'm referring to those that are -- are seeking
22 care at our -- our gender dysphoria clinic at
23 Washington University.
24 Q But you aren't personally involved in -- in the
25 treatment of those patients seeking evaluation

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1 and treatment for gender dysphoria; right?
2 A As I've already stated, both in my declaration
3 and this morning, that is correct.
4 Q And so -- and when you say you refer them, you
5 refer them to the gender care clinic?
6 A I do not make referrals. The patients through
7 our office staff will contact our division and
8 they will be -- set up the appointment within the
9 gender clinic.
10 Q So you do not personally refer them?
11 A That is correct.
12 Q So I'm trying to think -- we can just leave this
13 up.
14 Have you conducted any clinical research
15 related to gender dysphoria or the treatment of
16 transgender people generally?
17 MR. RAMER: Objection to form.
18 A So I guess your question is have I been the
19 principal investigator of a clinical trial
20 related to the treatment of gender dysphoria?
21 Q Sure. Have you been the principal investigator
22 in a clinical trial related to the treatment of
23 gender dysphoria?
24 A I have not.
25 Q Have you had any role in a clinical trial related

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1 to the treatment of gender dysphoria?
2 A Yes, I have.
3 Q And what was that?
4 A In my role in the fellowship program, there are
5 several of our fellows that are currently engaged
6 in research projects related to adverse effects
7 of gender-affirming medical interventions. In my
8 role as the associate program director, one of my
9 responsibilities is to supervise that research,
10 to assist the fellows in setting up the research
11 projects, evaluate their progress in performing
12 that research and being able to effectively
13 disseminate the results of the research in that
14 area. And, again, I'm not the mentor, nor am I
15 the principal investigator of these trials. My
16 role is limited to the supervision and guidance
17 of those fellows.
18 Q And how many of these trials that you're serving
19 as the fellowship supervisor for are there?
20 A Currently there are two fellows involved in two
21 separate research projects related to gender
22 dysphoria.
23 Q And what types of studies are these two fellows
24 conducting?
25 A The first fellow -- both of them are senior

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1 fellows, soon to graduate and join our faculty.
2 One is doing a randomized controlled trial on
3 different estrogen preparations and looking for
4 thromboembolic risk related to these different
5 forms of estrogen administration.
6 The other fellow is doing a research project
7 related to the effect of a androgen receptor
8 blocker by the name of bicalutamide --
9 bicalutamide in liver toxicity.
10 Q So just going to the first trial with respect to
11 the estrogen that you described, that's a trial
12 that's comparing two formulations of estrogen to
13 treat patients with gender dysphoria; is that
14 correct?
15 A I would say more than one preparation to be able
16 to ascertain if there is a difference in
17 thromboembolic risk with these different estrogen
18 preparations, correct.
19 Q And, I'm sorry, the second trial, can you explain
20 that one again? And apologies, I'm not
21 scientifically literate here.
22 A So this is actually a retrospective chart review
23 of patients that have been exposed to the
24 androgen receptor blocker bicalutamide and
25 looking at evidence of hepatic or liver toxicity.

Page 46

1 Q So that is not a randomized controlled trial?

2 A That is correct.

3 MR. STRANGIO: Okay. If we could pull up,

4 please, Kim, Exhibit 2, and -- and turn to

5 page 7.

6 Maybe scroll down, please, a bit. Okay,

7 yeah, to the next page where it's a bibliography.

8 Great. Thank you.

9 Q So, Dr. Hruz, this is the section of your -- of

10 your CV titled "Bibliography." Is this a list of

11 publications that you have authored?

12 A That is correct, either as a first author, senior

13 author or contributing author.

14 Q So -- and here you have 52 publications listed

15 as, A, Journal Articles. Is that academic

16 journal articles?

17 A Yes.

18 Q And then scrolling down, there's three book

19 chapters; is that correct?

20 A Yes.

21 Q And then eight invited publications?

22 MR. RAMER: Sorry, Chase, where are we?

23 MR. STRANGIO: Yeah, so, sorry. Kim, if you

24 could scroll, it's past -- there's the 52 journal

25 articles. Just trying to get the lay of the land

Page 47

1 here.

2 Q Okay. So then we have the -- this is then

3 subsection C2 here is the three book chapters,

4 and then there's I believe eight invited

5 publications, right there.

6 A That is correct.

7 Q And so what is the difference between a

8 publication and an invited publication?

9 A Generally the invited publications, I was

10 contacted by an editor or interested party asking

11 if I would contribute a paper for that. The --

12 the first section with the 52 papers are usually

13 submissions that unsolicited I submit to the

14 journal for publication. These are papers that I

15 was asked to contribute a scholarly article

16 and -- and then engaged in the writing of that

17 paper.

18 Q Understood. Is that the only difference for

19 purposes of your CV?

20 A For the purposes of the CV, I would say correct.

21 Q And so going back just a little ways to the -- to

22 the publications, you have two articles -- no,

23 down at the bottom is fine, sorry. Yes, here.

24 Under the publications, you have two

25 articles that concern the treatment of

Page 48

1 individuals with gender dysphoria; is that -- is

2 that right?

3 A I'm sorry, are we in invited or are we under the

4 journal articles?

5 Q Under the journal articles, that would be two

6 articles concerning the treatment of individuals

7 with gender dysphoria; is that right?

8 A You have to scroll up a little bit so we can be

9 looking at them.

10 MR. STRANGIO: Yeah, Kim, if you could --

11 it's actually a little more up, in the earlier,

12 like the 40s. There we go.

13 THE WITNESS: There we go.

14 MR. STRANGIO: That's good, stop there. No,

15 no, not that far. A little bit down. Okay.

16 A So, yes, looking at the paper of first author

17 Malone and the paper in the Linacre that I was

18 the sole author of, that's correct.

19 Q Okay. And so just to be specific, this -- that

20 would be "Deficiencies in Scientific Evidence for

21 Medical Management of Gender Dysphoria" in the

22 Linacre Quarterly?

23 A That is correct.

24 Q And then the second one would be the letter to

25 the editor from primary author William Malone

Page 49

1 regarding the "Proper Care of Transgender and

2 Gender Diverse Persons in the Setting of Proposed

3 Discrimination: A Policy Perspective"?

4 A That is correct.

5 Q And the first publication is in a journal called

6 the Linacre Quarterly; is that right?

7 A That is correct.

8 Q And the Linacre Quarterly is the official journal

9 of the Catholic Medical Association; is that

10 right?

11 A It is an -- the longest standing published ethics

12 journal in the United States that is run by the

13 Catholic Medical Association, correct.

14 Q And the second article listed here is a letter to

15 the editor; is that right?

16 A In the Journal of Clinical Endocrinology and

17 Metabolism, correct.

18 Q And you have two book chapters related to

19 transgender people and gender dysphoria; is that

20 right?

21 A That is correct.

22 Q And the first is "Medical Approaches to

23 Alleviating Gender Dysphoria," and that was

24 published in the book "Transgender Issues in

25 Catholic Health Care"; is that right?

Page 50

1 A That is correct.

2 Q And the second is "A Biological Understanding of

3 Man and Woman," and that was in the book "Sexual

4 Identity: The Harmony of Philosophy, Science and

5 Revelation"; is that correct?

6 A That is correct.

7 Q And that second book, "Sexual Identity," was

8 published by Emmaus Road Press; is that right?

9 A That is correct.

10 Q And if we could go to Exhibit 6. And Emmaus Road

11 Publishing Company, according to their website,

12 is a Christian publishing company driven with a

13 passion to proclaim the gospel of God's grace to

14 the nations of the earth; is that right?

15 MR. RAMER: Objection to form.

16 A So you've read that correctly.

17 Q And so any reason to believe that that is not the

18 description of the Emmaus Road Press?

19 MR. RAMER: Objection to form.

20 A Again, you know, I'm not opining as a theologian

21 nor making judgments, but you presented a web

22 page that expresses their purpose, and that is

23 consistent with my understanding as well.

24 MR. STRANGIO: And then going back to

25 Exhibit 2, Kim, thank you, and to the invited

Page 51

1 publications.

2 Q There are three invited publications concerning

3 gender dysphoria or transgender people; is that

4 correct?

5 A Yes.

6 Q And these include "Growing Pains: Problems With

7 Pubertal Suppression in Treating Gender

8 Dysphoria" in The New Atlantis; is that right?

9 A That is correct.

10 Q "The Use of Cross-Sex Steroids in Treating Gender

11 Dysphoria" in the National Catholic Bioethics

12 Quarterly?

13 A That is correct.

14 Q And "Experimental Approaches to Alleviating

15 Gender Dysphoria in Children" in the National

16 Catholic Bioethics Quarterly?

17 A That is correct.

18 Q And so the "Growing Pains" article from 2017,

19 that's in The New Atlantis; right?

20 A Correct.

21 Q And The New Atlantis is not an academic journal;

22 is that right?

23 A Many would disagree with that statement. I think

24 it is an academic publication different than the

25 ones that are listed earlier in my CV.

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1 MR. STRANGIO: Well, if we could pull up

2 Exhibit 7 and go down to -- a little further.

3 This is the "About Us" section of The New

4 Atlantis. Keep going down. I'm sorry, it's at

5 the very bottom here. Further. So here. It

6 says "Who We Are."

7 Q So The New Atlantis says, "We are not an academic

8 journal but a journal of public" -- sorry, excuse

9 me. "We are not an academic journal but a public

10 journal of ideas."

11 So The New Atlantis would not describe

12 itself as an academic journal?

13 MR. RAMER: Objection to form.

14 A If you scroll up under their aims, they address

15 issues that I would consider academic questions,

16 and in that respect it would be academic.

17 So, again, I'm -- I'm not on the editorial

18 board of this journal. I have no knowledge of

19 the workings of -- of their overall goals, but I

20 would say that it does discuss ideas that would

21 fall into the area of academic discussion.

22 Q It's not a peer-reviewed journal; right?

23 A This question has come up repeatedly. Many times

24 these types of publications are reviewed by the

25 editorial board, and for the questions being

Page 53

1 explored, the editors themselves could be

2 considered the peers, but it differs in the

3 review mechanism that are generally done for the

4 other 52 publications that I have mentioned

5 earlier in my CV.

6 Q So it has an editorial review process?

7 MR. RAMER: Objection to form.

8 A That is my understanding, correct.

9 Q But it doesn't have -- it's not reviewed by,

10 let's say, other endocrinologists?

11 MR. RAMER: Objection to form.

12 A Well, first off, I'm not a member of this

13 organization, so I don't fully know the workings

14 of how they handle manuscripts.

15 My experience in submitting this paper was

16 going through the article and addressing multiple

17 questions that were raised by the editor and

18 revising the paper to make as clear as possible

19 of a document for the purposes that I wrote the

20 paper.

21 MR. RAMER: Chase, if you have a good break

22 point coming up, we've been going a little over

23 an hour.

24 MR. STRANGIO: Yeah, now is as good a time

25 as any, so take five.

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1 MR. RAMER: Doctor, does that work for you?
2 THE WITNESS: That would be fine.
3 (At this time a recess was taken.)
4 BY MR. STRANGIO:
5 Q Okay. So we left off, we were talking about The
6 New Atlantis publication. And so The New
7 Atlantis was founded by the Ethics and Public
8 Policy Center; is that right?
9 A You would know more than I, but I believe that's
10 correct.
11 Q And the Ethics and Public -- does it sound
12 correct to you that the Ethics and Public Policy
13 Center is working to apply the riches of the
14 Judeo-Christian tradition to contemporary
15 questions of law, culture and politics in pursuit
16 of America's continued civic and cultural
17 renewal?
18 MR. RAMER: Objection to form.
19 A It sounds like you're reading that off of some
20 statement that I assume you obtained from their
21 website. I have no basis to judge that, but it
22 is consistent with my understanding.
23 Q And the publications that we've just gone
24 through, are they all of your publications
25 related to transgender people and/or the

Page 55

1 treatment of gender dysphoria?
2 MR. RAMER: Objection to form.
3 A I have been as complete as I possibly can in
4 listing all of my publications that I've had
5 throughout my career, correct.
6 Q Are you currently working on any additional
7 publications related to the treatment of gender
8 dysphoria or transgender people?
9 A Yes.
10 Q And what are those?
11 A I have several that are in the process of
12 drafting related to the topics that were
13 contained within my declaration. I have one that
14 is involving the adverse effects of cross-sex
15 hormones, estrogen, in biological males, and
16 early drafting of several other manuscripts,
17 trying to be able to contribute to the literature
18 in an effective way of pointing out the ongoing
19 growing recognition of the limitations of the
20 scientific evidence and the more recent
21 publications showing the emergence of adverse
22 effects and lack of efficacy in the treatment
23 approaches using the affirmative model, and this
24 includes many of the metabolic and hormonal
25 effects that are within my area as a pediatric

Page 56

1 endocrinologist.
2 Q And for the publication that you mentioned on the
3 adverse effects of estrogen treatment, how are
4 you studying those?
5 A As I have throughout my entire time being
6 involved in this conversation, that I have been
7 very much aware of the emerging data, what is
8 being done within the published literature, and
9 all of the information that's available with the
10 studies that have been published or that are
11 being proposed.
12 Q So that publication will be a review of existing
13 data?
14 A So if you're asking, I am not currently doing a
15 clinical trial involved -- a randomized
16 controlled trial or any of that nature as a
17 principal investigator. It's merely looking at
18 the evidence and being able to present it in a
19 way that will help our profession in assessing
20 the relative risks and purported benefits of the
21 affirmative model of care as relates -- as it
22 relates to pediatric endocrinology.
23 Q And when you say "looking at the evidence," what
24 evidence are you looking at for that particular
25 paper?

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1 A Looking at the -- the published literature
2 available on outcomes, all of the research that
3 has been done, and the emerging data regarding
4 adverse effects.
5 Q And what is that emerging data?
6 A Well, it includes, for example, the systematic
7 reviews that were done in Finland and Sweden,
8 including the peer-reviewed published article in
9 Acta Paediatrica that was just published
10 summarizing the basis for which Sweden made the
11 decision to relegate any of this affirmative care
12 to the context of a controlled clinical trial.
13 It includes the evidence that has come forward in
14 the NICE reviews in the United Kingdom. It
15 includes the emerging data, again, in relation to
16 the adverse effects of -- on bone health within
17 those that are receiving blockaded normally timed
18 puberty, and there are many other aspects that
19 I'm looking at in relation to what we do and do
20 not know about those interventions.
21 Q One other question on your CV. So going back to
22 page 1.
23 MR. STRANGIO: And that would be, Kim,
24 Exhibit 2. Can -- oh, thanks, sorry, I ought to
25 be more patient. And, yeah, so -- it's very

Page 58

1 small for me. Hold on. Okay. So to the -- so
2 page 1, and scrolling down a bit to the education
3 section. I don't need to go through everything
4 here, but -- we can stop there, Kim. Thank you.
5 Q So, Dr. Hruz, the last listing in your education
6 is the 2017 Certification in Healthcare Ethics
7 from the National Catholic Bioethics Center; is
8 that right?
9 A That is correct.
10 Q What did that entail?
11 A This was a year-long study, which was primarily a
12 correspondence course of reading ethics-based
13 articles. There were two in-person meetings,
14 both at the beginning and at the end of the
15 certification process, and, in fact, one of the
16 papers that's listed in my CV under Invited
17 Publications was the product of -- of the paper
18 that I wrote as part of that certification
19 program.
20 Q Got it. Thanks.
21 MR. STRANGIO: Okay. Kim, we can take -- we
22 can take this down. And we can maybe just pull
23 up Exhibit 1 just to have it nearby. Thank you.
24 Q So -- so, Doctor, do you believe that there are
25 some people who have a gender identity that

Page 59

1 differs from their natal sex?
2 A If you are asking me if there are individuals
3 that have a sex-discordant gender identity, the
4 answer would be yes.
5 Q What is a sex-discordant gender identity?
6 A Well, as -- as I understand it, individuals that
7 perceive their sexual identity that is discordant
8 with their biological sex, so that includes
9 biological males that identify as women and
10 biological females that identify as men.
11 Q And you would agree -- and then are there
12 adolescents who would fit this description?
13 A There indeed would be adolescents that have that
14 experience.
15 Q And -- and for this population with this
16 discordance, can it cause severe distress?
17 A Well, if -- if you look at the definition of the
18 DSM-5 for gender dysphoria, by definition it
19 requires one to have the stress related to that
20 experience, correct.
21 Q And so you would agree that there are some people
22 who would meet the criteria of gender dysphoria
23 as outlined in the DSM-5 text revision; is that
24 right?
25 MR. RAMER: Objection to form.

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1 A So, again, I'm not testifying in this case
2 specifically about the diagnosis. Yet if one
3 were to go through the DSM-5 criteria and ask the
4 patients about their experience and they would
5 report that to fulfill that criteria, those
6 patients do exist.
7 MR. STRANGIO: And if we could pull up
8 Exhibit 1, please, Kim, paragraph -- sorry, top
9 of page 30, paragraph 55. Yeah, we can -- it's
10 between 29 and 30. Yeah, that's great. Thank
11 you.
12 Q And so here in your declaration, you're talking a
13 little bit about gender dysphoria. And at the
14 top of page 40 you write, "Gender dysphoria is
15 associated with high rates of comorbidity,
16 including suicidal ideation, depression, anxiety,
17 poverty, homelessness, eating disorders and HIV
18 infection."
19 Did I read that correctly?
20 A You did indeed read that correctly.
21 Q And you would consider poverty and homelessness
22 to be comorbidities?
23 A They're associated difficulties that these
24 individuals experience, yes.
25 Q Why do you think people with gender dysphoria are

Page 61

1 disproportionately homeless?
2 MR. RAMER: Objection to form.
3 A Well, that's -- leads to significant speculation.
4 I think that there are many questions that remain
5 unanswered regarding etiology. And when one
6 looks at the literature, one can look at things
7 that are antecedent or subsequent to the
8 expression of sex-discordant gender identity.
9 This is an area that is definitely in need of
10 additional research.
11 There are -- I would say that to summarize,
12 the best understanding of the etiologic basis
13 and, you know, the associations that one sees
14 between these other comorbidities, there can be
15 both questions about cause versus effect.
16 Q So does comorbidity mean a co-occurring diagnosis
17 or just any correlating phenomena?
18 MR. RAMER: Objection to form.
19 A Well, morbidity means to -- things that are --
20 are contrary to health. Comorbidity means they
21 occur at the same time, and by definition that's
22 what we mean by comorbidity.
23 Q And do you think that the -- that the comorbidity
24 of homelessness could be related in part to
25 discrimination in society?

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1 MR. RAMER: Objection to form.
2 A So if you're referring to the social stress
3 hypothesis, that is one of the areas that -- that
4 people have considered as a reason for that,
5 among others.
6 Q Well, I'm not -- I'm not even referring to any --
7 any hypothesis. I'm just asking you since you
8 wrote it here in your declaration, do you think
9 that one possible contributing factor to the
10 comorbidity of homelessness could be societal
11 discrimination?
12 MR. RAMER: Objection to form.
13 A By the way that you ask the question, you're
14 asking me to opine on a hypothesis, and I stated
15 that very clearly.
16 Q What -- I'm sorry, I didn't understand your
17 answer to my question about the hypothesis.
18 A Well, please ask the question again.
19 Q Do you -- let me ask it this way. Do you think
20 that poverty and homelessness, which you identify
21 as comorbidities of gender dysphoria, could be
22 related to societal discrimination?
23 MR. RAMER: Objection to form.
24 A So by stating it as a could this be a factor,
25 that is a hypothesis.

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1 Q Is it one of your hypotheses?
2 A I as a physician scientist entertain all possible
3 hypotheses. Not all hypotheses have the same
4 merit. They're based on different scientific
5 premises and associated data in support or
6 contrary to that. It is a hypothesis that has
7 been put forward, and as a good physician
8 scientist, one needs to very seriously consider
9 that as a possibility.
10 Q And what are some other hypotheses of why there
11 is this comorbidity of poverty and homelessness
12 with gender dysphoria?
13 MR. RAMER: Objection to form.
14 A Again, in my perspective as a pediatric
15 endocrinologist and physician scientist, one
16 needs to recognize that when one looks at this
17 question, there are many of these comorbidities
18 that predate the onset of any understanding of
19 sex-discordant gender identity. It's very well
20 established in the literature that those that
21 suffer from various psychological and psychiatric
22 disorders, including depression, that that can be
23 associated with socioeconomic status, the ability
24 to have and to hold a job, so all of these are
25 factors, and whether they are antecedent or

Page 64

1 resultant to the sex-discordant gender identity
2 is a matter of active discussion.
3 Q But would you agree that, say, homelessness in a
4 six-year-old is probably not antecedent to the
5 sex-discordant gender identity?
6 MR. RAMER: Objection to form.
7 A Well, again, you're asking me to speculate on a
8 hypothetical with -- there are many other
9 contributing factors. In the hypothetical that
10 you posed, not clear what the family dynamics
11 are, whether the parents themselves are homeless,
12 whether that had any influence at all on the
13 presentation that saw a child with sex-discordant
14 gender identity, so one cannot make blanket
15 statements. One can entertain various hypotheses
16 as to the factors that contribute to that
17 experience.
18 Q But, so as you're explaining it now, familial
19 homelessness could contribute to sex-discordant
20 gender identity?
21 A I'm not familiar with the term familial
22 homelessness, but if you're referring to
23 individuals that -- that are exposed to various
24 psychosocial traumas and difficulties, there is
25 much that has been proposed as a hypothesis that

Page 65

1 that might contribute to the emergence of
2 sex-discordant gender identity in some
3 individuals.
4 Q Is there any evidence of that in the research
5 literature?
6 A I would say there's evidence. It was not very
7 high quality evidence, and much of this relates
8 to anecdotal reports. There is very good data
9 showing the co-occurrence of these psychiatric
10 comorbidities in this patient population in
11 relation to people that have other psychological
12 morbidities that are independent of
13 sex-discordant gender identity showing similar
14 types of difficulties.
15 Q But in this particular sentence, then, you are
16 citing some comorbidities which appear in the
17 literature only in the form of anecdotal reports
18 and what you would consider not high quality
19 evidence; is that right?
20 MR. RAMER: Objection to form.
21 A The statement here is a statement of fact that
22 these associations do occur, and it is not
23 possible with the available evidence to make a
24 conclusive statement about cause versus effect,
25 but I think it is very well established, I think

Page 66

1 by everyone that is aware of this patient
2 population, that these comorbidities do exist and
3 I think that that is fairly solid data about
4 co-occurrence.
5 Q And so going to also in this exhibit, page 30,
6 just a little ways down in paragraph 56.
7 MR. STRANGIO: Okay, you can stop there.
8 Thank you, Kim.
9 Q So here you write, starting at the beginning of
10 paragraph 56, "Some practitioners promote a
11 so-called gender-affirming approach to treating
12 gender dysphoria which involves affirming the
13 child's present gender identity. This
14 affirmation may have social, medical, legal and
15 behavioral dimensions. Typically, this affirming
16 approach encourages children to embrace
17 transgender identity with social transitioning,
18 followed by puberty blockade and hormonal therapy
19 (cross-sex hormones) and potential surgical
20 interventions."
21 Did I read that correctly?
22 A Yes, you did read that correctly.
23 Q And so I want to talk about this part of the --
24 this sentence where you write, "Typically this
25 affirming approach encourages children to embrace

Page 67

1 a transgender identity."
2 Do you see that part of the sentence?
3 A I do.
4 Q And the only citation to -- in this sentence as
5 far as I understand it is A. Walch, et al.,
6 "Proper Care of Transgender and Gender Diverse
7 Persons in the Setting of Proposed
8 Discrimination"; is that right?
9 A That's correct. And my citations are not
10 exhaustive of the literature that I've read or
11 that would support that statement, but it is used
12 to support that.
13 Q So is there anything in A. Walch, et al., that
14 you could point to that would be representative
15 of encouraging children to embrace a transgender
16 identity?
17 MR. RAMER: Objection to form.
18 A Well, to answer that question, I would be very
19 happy if you would pull up that as an exhibit and
20 we can go through the paper and look at that
21 specifically.
22 Q Okay, perfect. So that's Exhibit 9.
23 Doctor, is this -- is this the right
24 article?
25 A That is correct, uh-huh.

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1 Q And so it's not very long. If you want to read
2 it now and tell me where -- where in this
3 document there's a reference to encouraging
4 children to embrace a transgender identity as you
5 write, that would be helpful.
6 A Okay. Thank you very much.
7 MR. STRANGIO: And, Kim, you can follow
8 Dr. Hruz's direction here.
9 A You can go a little bit faster. We can go
10 through to the meat of the paper here. You can
11 go down to the actual text of the paper. This is
12 just the abstract here. I think you can go
13 further. Hold one second. Go back, go back up.
14 Why don't you go down a little bit further. You
15 can go down a little bit further. Actually, I
16 want to just get a lay of the entire paper here.
17 I notice in the paper here, it addresses the
18 question that you asked earlier. These authors
19 of this paper make the same statement that I made
20 as far as the disproportionately high rates of
21 comorbidities and mental health issues associated
22 with that.
23 So this paper is addressing concerns
24 relating to the legislation that is being put
25 forward to limit this care. It sets up

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1 gender-affirming care as the preferred approach,
2 which I've seen many times in many other papers,
3 many other publications that I could cite where
4 this is -- a question has come up.
5 I will add that further support for that
6 statement, you know, comes even from the
7 transition from the -- the initial guidelines, if
8 you look at the WPATH. I could have cited that
9 as well as support for that statement in my
10 declaration. And there are many other statements
11 that have been made by the American Academy of
12 Pediatrics and other organizations where the --
13 the recommendations that one be allowed to -- and
14 that one be affirmed in their gender identity
15 without any critical assessment as to etiology
16 for that is actually strongly advocated, so,
17 again, there are many other papers.
18 I'm, again, just looking through this very
19 quickly here. This citation relates to the
20 advocacy for allowing one to have the
21 gender-affirming approach.
22 Q Well, so -- so I'm happy to have you look at it
23 more closely, if -- if you'd like, rather than --
24 rather than just quickly so we can answer the
25 questions, if you want to take another minute.

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1 A It would be very easy if I could -- much easier
2 if I could download it and actually go through it
3 myself, but can you go back up -- again, just so
4 I can reorient myself to your question, you're
5 looking for a statement in this paper here that
6 relates to encouragement or allowing one to have
7 affirmation of their gender identity. I think
8 the whole summary --

9 Q Well, let's -- let's stop there, because I don't
10 think encouragement and allowing are the same
11 thing. Do you think encouragement and allowing
12 are the same thing?

13 A No, they are different.

14 Q Okay. And so I would -- wanted to find where
15 this paper -- and what you wrote is, "This
16 affirming approach encourages children to embrace
17 a transgender identity," and then cited this
18 paper, so what I want to ask you is where in this
19 paper is there reference to encouraging children
20 to embrace a transgender identity?

21 A As I said, as I'm recalling the paper that I
22 cited here, it seems to be advocating for the
23 affirmative model, and so, you know, if -- it's
24 making the opinion that these individuals are --
25 are being harmed if they are not allowed to have

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1 their gender affirmed.

2 Again, there are other publications that I
3 could cite that really support the claim that I
4 make in my declaration.

5 Q Okay. And so it's -- it's your position that
6 making the claim that children could be harmed if
7 they're not allowed to access a particular
8 medication is tantamount to encouraging them to
9 embrace a transgender identity?

10 MR. RAMER: Objection to form.

11 A No. I would say that there is -- there are many
12 that make the statement that when one presents
13 with a sex-discordant gender identity, that that
14 that should be supported and not critically
15 appraised and accepted at face value as the
16 patient who presents desires to have that done.

17 And there are -- in addition to this
18 publication, which really I've addressed kind of
19 how -- what this -- the focus of this paper is,
20 there are many other publications that are
21 available that really put that forward, the
22 uncritical acceptance of one's sex-discordant
23 gender identity without exploration as to the
24 basis for which the sex-discordant gender
25 identity became apparent. I think I might have

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1 cited later in here the Olson paper looking at --
2 again, it was for a different purpose, of looking
3 at social affirmation in relation to ongoing
4 transition to -- to other forms of gender-forming
5 medical interventions, and -- but there are other
6 papers that clearly support that, so.

7 And it wasn't intended in my declaration to
8 be exhaustive in -- in citing all of the
9 literature. Obviously, in the context of this
10 document, it's not possible to put forward all of
11 the papers that address this question.

12 Q But so where in this paper is there reference to
13 uncritical acceptance of a child's gender
14 identification?

15 MR. RAMER: Objection to form.

16 A Well, I -- I would say that I very much
17 summarized the basis of that paper and, again, it
18 is advocating for allowing one to have a gender
19 affirm -- access to gender-affirming care, which
20 supports that as being a desired outcome.

21 Q And is it -- is it fair to say that there's
22 nowhere in this paper that specifically
23 references encouraging children to embrace a
24 transgender identity?

25 MR. RAMER: Objection to form.

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1 A I would say in the way you're phrasing it in this
2 line of questioning, I would agree with that
3 statement, although I would need to -- again, you
4 give me time to scroll through this, I think
5 it -- it really -- I stand by the assertion that
6 I made in my declaration that that is something
7 that is done, that one views the affirmation of
8 one's sex-discordant gender identity to be the
9 preferred approach to these individuals, and --
10 and that, again, you know, whether it is being
11 allowed or directly encouraged is -- is -- can be
12 gleaned from the way that this is presented in
13 many of the other papers.

14 Q But not in this particular paper?

15 MR. RAMER: Objection to form.

16 A Again, I would say that this paper here is making
17 a very strong argument that they -- the authors
18 believe that patients should be allowed to have
19 access to gender-affirming hormonal
20 interventions.

21 Q So making a strong argument that the patients
22 should be allowed to have -- allowed to have
23 access to gender-affirming treatment is, in your
24 view, evidence of encouraging children to embrace
25 a transgender identity?

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1 MR. RAMER: Objection to form.

2 A I would say that this is consistent with this and

3 other papers of having a model by which when one

4 experiences a sex-discordant gender identity,

5 that it is not critically evaluated as to the

6 basis for the emergence of that sex-discordant

7 gender identity and one is supported in having

8 access to social affirmation and gender-affirming

9 medical interventions.

10 Q And you said this and other papers, but this is

11 the only paper you cited for this sentence; is

12 that right?

13 A In my declaration it was the only reference.

14 Again, in the ability -- in this type of a

15 document, not intended to be exhaustive of the

16 literature, and, again, it's consistent with my

17 opinion in this case.

18 Q In your view, is following the treatment outlined

19 in the current Endocrine Society guideline for

20 the treatment of gender dysphoria tantamount to

21 encouraging a child to embrace a transgender

22 identity?

23 MR. RAMER: Objection to form.

24 A So the question about a child that experiences

25 sex-discordant gender identity, it's important to

Page 75

1 recognize how this thinking has evolved over

2 time.

3 In the original 2009 Endocrine Society

4 guidelines, they specifically discouraged social

5 affirmation in prepubertal children that have

6 this experience, recognizing the existing

7 literature showing that there is a high

8 likelihood that those individuals, if not

9 encouraged in that sex-discordant gender

10 identity, would have a realignment of their

11 gender identity of their sex. They cite many of

12 the same papers that I, in other areas, have --

13 in my other publications have mentioned.

14 And so the Endocrine Society initially

15 recognized the impact of the social affirmation

16 not being a neutral intervention, but actually

17 influencing potential later stages of engagement

18 in gender-forming -- gender-affirming medical

19 interventions. So I -- well, I'll leave it at

20 that.

21 Q So separate from social affirmation and separate

22 from the 2009 Endocrine Society guideline, would

23 you consider following the recommendations in the

24 2017 Endocrine Society guideline to be the

25 equivalent of encouraging a child to embrace a

Page 76

1 transgender identity?

2 MR. RAMER: Objection to form.

3 A As -- as we've been discussing, the -- again,

4 from my perspective as a pediatric

5 endocrinologist, just to be very clear, the role

6 of the endocrinologist, what the endocrinologist

7 is being asked to do is to deliver hormonal

8 medications, whether they be GnRH agonists,

9 puberty blockers, or cross-sex hormones to

10 facilitate the gender-affirming approach. It is

11 done together with other practitioners, but the

12 Endocrine Society guidelines, as they are put

13 forward, are being addressed to the endocrine

14 community. They do address topics related to the

15 other components of the gender-affirming medical

16 care, but the focus of the recommendations are on

17 the role of the endocrinologist in that

18 gender-affirming model.

19 Q So let's say there's an endocrinologist who sees

20 a patient and that patient has had a

21 sex-discordant gender identity from a very early

22 age, let's say three, and they come in, they had

23 significant distress, they come in to see the --

24 the endocrinologist. The endocrinologist

25 consults the guidelines, and this child is 16

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1 years old, was never on puberty blockers, but has

2 long-standing distress and a diagnosis of gender

3 dysphoria.

4 If that endocrinologist prescribes cross-sex

5 hormones to that patient before them, is that

6 encouraging that child to embrace a transgender

7 identity?

8 MR. RAMER: Objection to form.

9 A So as you described that case, the intent of the

10 patient coming to the endocrinologist is to be

11 given medical interventions, hormonal therapy,

12 that will change the appearance of the body to

13 conform to one's gender identity. That would be

14 facilitating that bodily change that is in accord

15 with the desire of that patient. And it would be

16 doing more than just encouraging. It would

17 actually be engaging in a practice that would

18 lead to those bodily changes.

19 Q So you would -- you would say the intent of

20 the -- of the doctor in that circumstance is to

21 encourage a transgender identity?

22 MR. RAMER: Objection to form.

23 A The intent of the endocrinologist giving

24 cross-sex hormones is to change the appearance of

25 the body to conform to one's gender identity.

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1 Q Do you think that endocrinologists who provide
2 that treatment have an investment in the patient
3 being transgender?
4 MR. RAMER: Objection to form.
5 A I don't know how you infer any judgment on
6 investment. They are being asked, and those that
7 would prescribe those medications would be
8 acquiescing to the desires of that patient to
9 facilitate that change.
10 Q Do you think when doctors treat conditions to
11 alleviate suffering, they're acquiescing to
12 patient desire, as a general matter?
13 MR. RAMER: Objection to form.
14 A This is an important question because I think it
15 relates to the uniqueness of the engagement of an
16 endocrinologist in the -- in the treatment of
17 gender dysphoria, which is very distinct from all
18 of the other conditions that a pediatric
19 endocrinologist would normally treat.
20 And the difference is that in all other
21 endocrine conditions -- or in all endocrine
22 conditions -- this is not an endocrine condition
23 until you make it one by disrupting the function
24 of the normal gonadal function -- is that we have
25 objective criteria to make the diagnosis. We

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1 have objective criteria for establishing not only
2 the diagnosis, but the response to treatment by
3 measuring of various hormone levels, imaging
4 studies and objective criteria.
5 So I would say that -- that the
6 endocrinologist is not acquiescing to the desires
7 of the patient. They're able to objectively
8 recognize an endocrinologic disorder and be able
9 to address that disorder within the tools that
10 are available to the endocrinologist, so I would
11 say that it is not the same thing. It is very
12 different in the setting of gender dysphoria than
13 it is in other endocrine conditions.
14 Q But the endocrinologists who are treating
15 adolescents with gender dysphoria you believe are
16 acquiescing to patient desires?
17 MR. RAMER: Objection to form. Asked and
18 answered.
19 A I would say, again, that they are being asked to
20 and they're agreeing to deliver hormonal
21 interventions that will change the appearance of
22 the body to conform to one's perceived gender
23 identity, and in that case they are facilitating
24 the transition that the patient desires.
25 Q And do you think facilitating and encouraging are

Page 80

1 the same thing?
2 A No.
3 Q Okay. Are you a member of the Endocrine Society?
4 A Yes, I am.
5 MR. STRANGIO: So if we could go back to
6 Exhibit 1 and paragraph 86, pages 49 to 50.
7 Okay. Wait, no, no, go up, sorry. Sorry, you're
8 right, go down. That was my fault.
9 Q So here in -- this is in between pages 49 and 50,
10 paragraph 86, talking about the Endocrine Society
11 clinical practice guideline with respect to
12 treatment of gender dysphoria, you write, "The
13 guidelines were never submitted to the entire
14 Endocrine Society membership for comment and
15 approval prior to publication."
16 Did I read that correctly?
17 A You did.
18 Q And is that unique to this particular guideline
19 or is that just how Endocrine Society clinical
20 practice guidelines are generally done?
21 MR. RAMER: Objection to form.
22 A So I can state in another related area, there was
23 a paper that was recently published by the
24 Endocrine Society about the importance of sex as
25 a biological variable. That paper was put out to

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1 the entire membership for comment and addressing
2 before it was published, in contrast to this
3 guideline that was not.
4 Q Well, I'm talking about clinical practice
5 guidelines; say, for example, the clinical
6 practice guidelines for CAH. Is that put out to
7 the entire membership for comment and approval
8 prior to publication?
9 MR. RAMER: Objection to form.
10 A I think I understand your question. So the
11 statement that I make in this paragraph was not
12 that -- so it is correct that most clinical
13 practice guidelines are not put to the membership
14 for approval, but I would -- the reason why this
15 is contained within my declaration is that
16 statements have been made by the plaintiffs that
17 this is accepted by the Endocrine Society. And I
18 would say that without having the ability to --
19 of the entire membership to comment on that, you
20 cannot state that this is endorsed by the members
21 of the Society. It is only endorsed by the
22 members of that committee that put together the
23 recommendations. That is the purpose of that
24 statement. And that is an accurate description
25 of -- of the -- the status of how these

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1 recommendations are in relation to the
2 understanding of the entire membership of the
3 Society.
4 Q So just for clarity, the clinical practice
5 guidelines, including the clinical practice
6 guideline for treatment of gender dysphoria and
7 others, are not put out to the entire membership
8 before publication?
9 MR. RAMER: Objection. Beyond the scope.
10 A So, again, my understanding as a member of the
11 Endocrine Society, that most of the clinical
12 practice guidelines are not put to the membership
13 as a whole, but there are also not claims that
14 they represent the understanding of the entire
15 society as well.
16 Q But the Endocrine Society is not claiming that
17 these clinical practice guidelines represent
18 anything different than they are with respect to
19 other clinical practice guidelines, are they?
20 MR. RAMER: Objection to form.
21 A They're -- my understanding from -- from the
22 plaintiff experts is they are making that claim.
23 Q Separate from the plaintiff experts, is the
24 Endocrine Society making that claim?
25 A No.

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1 Q So just trying to understand a little more
2 about -- about your position, is it fair to
3 summarize your position that as -- there is a
4 lack of evidence that pubertal suppression to
5 treat gender dysphoria in adolescents is
6 effective?
7 A That's one component of my opinion, correct.
8 Q And can you just explain to me what you would
9 consider to be effective treatment?
10 A Well, so, again, it cannot be considered in
11 isolation, so in all medical treatments, one
12 weighs relative risks to relative benefits. And
13 there always is a risk/benefit analysis that is
14 done.
15 The goal of this intervention is to improve
16 the -- to alleviate the suffering of these
17 individuals. Because this is such a new
18 intervention and the existing data, which we have
19 very little long-term data in the use of this
20 affirmative model in adolescents long term, is
21 drawn upon by the experience in adult
22 populations, some of the best longitudinal
23 studies that have been done looking at outcomes
24 following gender-affirming medical care and how
25 their psychological health is in relation to

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1 the -- the rest of the population, which leads to
2 significant questions about the efficacy of truly
3 alleviating in a sustained way the morbidity that
4 one has and is seeking to have relieved by the
5 delivery of this care.
6 Q So effective would be to see the distress
7 alleviated from the morbidity, is that -- just to
8 summarize that -- the last part of your answer;
9 is that right?
10 MR. RAMER: Objection to form.
11 A There are many -- there are many outcome measures
12 that one can use to assess the efficacy. One of
13 them, and a very important and predominant
14 outcome measure, would be the alleviation of the
15 dysphoria, which is used as the basis for
16 engaging in the affirmative care. It also can
17 include the need for ongoing use of psychiatric
18 medications, ongoing comorbidities including
19 eating disorders, depression, anxiety, peer
20 relationships, a whole host of other outcome
21 measures.
22 Q And you mentioned that this -- that this is a new
23 medical intervention. What makes it new?
24 A Well, I would say that when you have a condition
25 in which the best data that we have available in

Page 85

1 adults can often take over ten years to be able
2 to see, you know, effects where people have
3 actually discovered that it didn't alleviate the
4 suffering that they experienced, one does not
5 have that long-term data yet in the treatment of
6 children. The data that we do have available
7 actually leads to strong questions about the
8 efficacy of the intervention in relation to some
9 of those primary outcome measures that I just
10 mentioned.
11 Q So the newness is based on the availability of
12 long-term data?
13 A No. The newness is the lack of solid scientific
14 evidence regarding the relative risks and
15 benefits that is precisely my opinion that is
16 supported by several of the European countries
17 that have come to the exact same conclusions
18 about the low quality of evidence, the questions
19 about the long-term efficacy and the relative
20 risks that one is -- and adverse effects that one
21 is assuming to achieve a purported goal of
22 alleviation of suffering. Again, it involves a
23 careful consideration of relative risk versus
24 relative benefit, and it is new to the extent
25 that we do not have the information that we have

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1 to be able to make the conclusions that many do
2 make incorrectly about the -- the effectiveness
3 of this approach as opposed to alternative
4 approaches.
5 Q So just taking a step back, you've mentioned now
6 a few times European countries. Which countries?
7 A Well, there's -- there are statements that have
8 been made in the UK, in Finland, Sweden, Norway,
9 France, New Zealand, many other countries that
10 are assessing this question of scientific
11 evidence and relative risk versus benefit.
12 Again, my role as a pediatric
13 endocrinologist is focused upon assessing the
14 relative risk versus benefit in relation to the
15 engagement of the pediatric endocrinologist in
16 the delivery of care involving hormones,
17 including cross-sex hormones and puberty
18 blockers.
19 Q And cross-sex hormones and puberty blockers
20 continue to be prescribed to adolescents with
21 gender dysphoria in the UK; isn't that right?
22 MR. RAMER: Objection to form. Beyond the
23 scope.
24 A Okay. So in this case I am not going to be
25 testifying specifically in that area, but my

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1 understanding is based upon the systematic
2 reviews by the National Institute for Clinical
3 Excellence which include two systematic reviews,
4 one on puberty blockers and one on cross-sex
5 hormones, gave the conclusion that the evidence
6 is deficient and they are dialing back on the
7 provision of the current delivery model and it is
8 a process that is ongoing. What was published as
9 the Cass report is an interim report, but
10 recognizing, for example, in -- in the Carmichael
11 paper that many of the outcome measures were not
12 able to replicate the benefit of the Dutch model
13 in their publication on a different population
14 and there's much more that could be said about
15 this, but I think that the recognition that the
16 evidence that is available is not what it needs
17 to be to -- to be able to say that this is -- the
18 relative benefits versus the relative risks are
19 justified and I think there's a general move
20 toward recognizing the primary importance of
21 psychological interventions.
22 Q Okay. But just a yes or no answer. Is care
23 banned currently in the UK for treatment of
24 adolescents -- excuse me, I'll rephrase.
25 Is the provision of puberty blockers or

Page 88

1 cross-sex hormone therapy to treat adolescents
2 with gender dysphoria currently banned in the
3 United Kingdom?
4 MR. RAMER: Objection to form. Asked and
5 answered.
6 A And I will say that I am not testifying in this
7 case as being, again, a legislator or a
8 politician on the workings in that country, but
9 my understanding is that it can still be
10 administered in circumstances, but the process of
11 how to deliver this care is under intense
12 scrutiny right now based upon the scientific
13 evidence.
14 Q But the care can still be delivered in the UK, to
15 the best of your understanding?
16 A As a pediatric endocrinologist --
17 MR. RAMER: Objection to form.
18 A As a pediatric endocrinologist testifying in this
19 case in relation to the relative risks and
20 benefits of the affirmative model, my
21 understanding is that -- that they are
22 reexamining the delivery of care, and I am not
23 aware of any absolute prohibition of the care,
24 but there is certainly recognition that -- that
25 there's much that we do not know and there needs

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1 to be reconsideration of -- of how we deliver
2 care to the affected population.
3 Q And is -- is Finland continuing to provide
4 hormone therapy and puberty blockers to some
5 adolescents with gender dysphoria?
6 MR. RAMER: Objection to form. Beyond the
7 scope.
8 A It is -- again, although I'm speaking as an
9 endocrinologist and hormonal interventionist, it
10 is my understanding that if that care is being
11 delivered, it needs to be within the setting of
12 an experimental trial.
13 Q So your understanding is that in the context of
14 at least clinical trials, care in Finland
15 continues to be provided to adolescents with
16 gender dysphoria?
17 MR. RAMER: Objection to form. Beyond the
18 scope.
19 A Again, beyond what I'm testifying in this case,
20 but that is my understanding.
21 Q Well, you raised all of these countries as
22 examples of the basis of your opinion about how
23 the relative risks and benefits of the treatment
24 are being assessed, so you are the one who
25 introduced these -- these countries, and so I'm

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1 now exploring the nature of these various
2 policies and -- and examinations, so you
3 introduced it into the scope of your -- of your
4 testimony, and it's my deposition and I'll ask
5 the questions.
6 So with respect to Sweden, is it your
7 understanding that at least in the context of
8 clinical trials, the provision of puberty
9 blockers and cross-sex hormone therapy are being
10 provided to adolescents with gender dysphoria?
11 A I need to --
12 MR. RAMER: Objection to form. Beyond the
13 scope.
14 A I need to clarify. It is not the basis of my
15 opinion. I brought up these European countries
16 that it supports my opinion, that it's consistent
17 with my opinion. It is not the basis of my
18 opinion.
19 The basis of my opinion is based upon
20 understanding of the scientific evidence that is
21 currently available independent of what is going
22 on in the European countries.
23 With that said, and your question being
24 outside of the -- what I'm offering in this case,
25 that is my understanding that it started with the

Page 91

1 Karolinska Institute making a determination that
2 they were going to halt the delivery of hormonal
3 treatments to these individuals based upon the
4 low quality of evidence. That was followed up by
5 a governmental policy statement indicating
6 that -- that -- again, that this needs to be an
7 area of active research, and that if it is going
8 to be delivered, it needs to be done recognizing
9 that it is experimental, and that is -- the basis
10 of that which is consistent with the opinion that
11 I am offering in this case was published in a
12 peer-reviewed journal, Acta Paediatrica,
13 demonstrating the low quality of evidence that's
14 present to support the use of the affirmative
15 model.
16 Q So it's consistent with your opinion to assess
17 the evidence and determine that it is appropriate
18 to continue to provide the treatments in the
19 context of a clinical research trial?
20 MR. RAMER: Objection to form.
21 A It is -- so I'm a physician scientist, and I have
22 long maintained that there is a need to do high
23 quality research. It has not been conducted in
24 the appropriate manner to be able to make causal
25 determinations of the effects of gender-affirming

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1 medical care, and it is an area that is in need
2 of active research. I fully support that.
3 I think that the trials that need to be done
4 are not even being considered. There are many
5 ways that we can address this question that need
6 to be explored, and that is, again, something
7 that I have consistently maintained.
8 Q With respect to research in this area, would you
9 agree that it would be difficult to run placebo
10 controlled randomized controlled trials for
11 puberty blockers to treat gender dysphoria?
12 A I would say that's a mischaracterization of how
13 those trials should be done. I don't think
14 anyone would use a placebo controlled trial.
15 That is not the way that the trial would be
16 envisioned.
17 Again, the misconstrued nature of how that
18 is proposed is that one treats a patient and then
19 does not treat another patient. That is not what
20 would be ethical to do. One can propose two
21 different treatments. And, again, the way
22 science is normally conducted is that one
23 controls for every element within the study
24 except for the independent variable, so that
25 means that both study groups would receive the

Page 93

1 same intervention, with the exception of the
2 intervention that's being studied for that trial.
3 Q So would you favor something like a randomized
4 controlled trial in which one group was given
5 psychotherapy alone to treat the distress related
6 to gender dysphoria and one group was given
7 pubertal suppression along with psychotherapy to
8 treat the gender dysphoria and then study the
9 two -- two groups, is that the type of trial that
10 you would envision?
11 MR. RAMER: Objection to form.
12 A That -- so, again, as a physician scientist, that
13 would be one way to conduct the trial. In fact,
14 that study has been done in a non-randomized way.
15 It's the 2015 Costa paper where the patients were
16 not randomized to the two interventions that you
17 propose, but they were studied and, in fact,
18 there is justification on the ethical basis that
19 both groups, both the group that received
20 psychotherapy alone and the group that received
21 pubertal blockade with psychotherapy had
22 improvement in the psychological parameters.
23 I think it would be ethical within the
24 constraints of a clinical trial to be able to
25 propose replicating those findings in a

Page 94

1 randomized manner, so I think there are many
2 other ways to propose that. That's not the only
3 way, but it is one example of the type of
4 intervention that could be studied.
5 Q And so just to follow up on -- on that point.
6 You would be in favor, as you've mentioned,
7 for -- for more research in this area. Is that a
8 fair summary of what you said?
9 MR. RAMER: Objection to form.
10 A Absolutely.
11 Q And one way to do research would be to give one
12 group the intervention, say puberty blockade, and
13 to give another group psychotherapy and to study
14 the effects of those -- of those two courses; is
15 that -- is that right?
16 A I think it would be imprudent to make that
17 generalized statement. There are many other
18 components the way that trial would need to be
19 designed within, you know, the -- the normal
20 regulatory mechanisms of the institutional review
21 boards to make sure that the safety of the study
22 subjects would be reasonably maintained to be
23 able to address that question.
24 I would say given the current state of
25 knowledge, the initial questions that could be

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1 studied in that type of randomized controlled
2 trial would be modest and very focused on
3 specific outcomes for a defined period of time,
4 but I would not in a conversation like this be
5 able to adequately cover all of the necessary
6 components to be doing such trial in an ethical
7 manner that would preserve the safety of the
8 patient -- or study subject while at the same
9 time allowing one to gain the insight that one
10 needs to fill in the gaps in the knowledge base.
11 Q Well, let me ask it this way. Would you ever be
12 in favor of a study design that included the
13 provision of gender-affirming hormone therapy to
14 adolescents with gender dysphoria as part of the
15 study?
16 A Given the current landscape of the way that this
17 affirming model care has -- has been delivered, I
18 think that that would be a necessary component of
19 being able to establish. There are many other
20 ways that you could potentially address that
21 question, but one way would be to have in an
22 experimental trial one group that received the
23 gender-affirming model and another group that
24 received an alternate care, again, maintaining
25 that both study groups would receive the

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1 identical care with the exception of the
2 independent variable. If the independent
3 variable was, for example, cross-sex hormones or
4 puberty blockers, I think that it would be
5 possible to design a trial with that -- that
6 intervention.
7 MR. STRANGIO: This is an okay place to stop
8 for me, John, so -- or I can move on. Do you
9 want to do a short break, an hour, and then
10 lunch, or how are you feeling?
11 MR. RAMER: So a break now makes sense.
12 We're almost at an hour I think anyway, so,
13 Dr. Hruz, over to you about how long of a break.
14 THE WITNESS: I would prefer to plow through
15 as quickly as possible, so we can keep this a
16 short break.
17 MR. STRANGIO: All right. Let's go five.
18 (At this time a recess was taken.)
19 MR. STRANGIO: Okay. So shifting gears a
20 little bit, and why don't we, Kim, go ahead and
21 pull up Exhibit 1, which is Dr. Hruz's
22 declaration.
23 Q And just to start, Doctor, so you currently treat
24 patients with disorders of sexual development; is
25 that right?

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1 A I do, although much of that is now going --
2 continuing to occur within the setting of our DSD
3 clinic. I routinely am consulted in patients
4 that are born with ambiguous genitalia in the
5 initial evaluation. I have -- my involvement in
6 the DSD clinic has been more limited than it has
7 been in the past.
8 Q And why is that?
9 A I have far too many other responsibilities.
10 Q Understood. I can relate.
11 MR. STRANGIO: Can we go to page 10, bottom
12 of paragraph 18, please, Kim. Thank you.
13 Q In here -- so in the -- sorry, the middle of
14 paragraph 18 you write, "Persons who are born
15 with such abnormalities are considered to have a
16 disorder of sexual development, DSD. Most often,
17 this is first detected as ambiguity in the
18 appearance of the external genitalia. Such
19 detection measurements are reliable and valid and
20 accepted by the relevant scientific community."
21 Did I read that correctly?
22 A Yes.
23 Q And so you said most often the ambiguities --
24 excuse me. Let me start over.
25 Are all DSDs detected based on appearance of

Page 98

1 an infant's external genitalia at birth?

2 A It depends on how one -- what one includes in the

3 DSDs. I know there are many that are more

4 inclusive than I would be in what constitutes a

5 disorder of sexual development. But there are

6 conditions, for example, that one could be so

7 virilized that one would not recognize ambiguity

8 of an individual, for example, that had an XX

9 karyotype that would have a male appearing

10 genitalia, so ambiguity is the most frequently

11 encountered, but there are other objective

12 criteria that can be used to recognize, diagnose

13 and treat other forms of DSDs.

14 Q But not all of those are necessarily immediately

15 known at birth; is that right?

16 A Yes. I would say probably the most common would

17 be complete androgen insensitivity where that

18 condition, the phenotype is female and it's not

19 recognized until later in life when one does not

20 menstruate that one has the condition.

21 Q And you write in the next paragraph, in 19, if we

22 could scroll down a little, at the bottom of the

23 page, "The need for making a tentative sex

24 assignment is unique to children with a DSD and

25 does not apply to individuals with normally

Page 99

1 formed and functional genitalia at birth."

2 Is that correct?

3 A That is correct.

4 Q And so taking the CAIS example, the complete

5 androgen insensitivity example, is the sex

6 assignment that's made at birth tentative in that

7 case?

8 A There -- so if I'm understanding your question,

9 again, if we think about the error rate in the

10 designation or on the appearance of the external

11 genitalia in correctly understanding the gender

12 identity -- or the sexual identity of the

13 individual, it is accurate in, but -- over

14 99 percent of the cases. That doesn't mean that

15 there are not cases in which there -- that

16 designation is an error, so that I would say that

17 there are situations in which one does not

18 recognize the DSD at the time of birth.

19 Q What is the difference between sexual identity

20 and gender identity? You just corrected

21 yourself.

22 A Sexual identity involves the -- the body itself

23 in relation to reproductive function, and as it's

24 currently being used -- again, people erroneously

25 conflate the two terms of gender and sex. But

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1 what people generally mean in the imprecise use

2 of that word of one's perception of their sexual

3 identity.

4 Q So what's -- so what would you -- how would you

5 explain one's perception of their sexual identity

6 as opposed to one's perception of their gender

7 identity?

8 MR. RAMER: Objection to form.

9 A So as I state very clearly in my declaration,

10 there are -- again, in 99.98 percent of the

11 cases, that one's appearance of their external

12 genitalia is in accord with reproductive

13 development and capacity, the actual basis for

14 sex among not only humans but across the animal

15 kingdom, and the unique roles that males and

16 females have that in that role of reproduction.

17 And so that is an objective understanding in

18 relation to that.

19 When one looks at individuals that have

20 disorders in that sexual differentiation process,

21 one is trying to be able to understand that --

22 the etiology, the cause of that disorder of

23 sexual development, and also the potential

24 functioning of that individual in relation to

25 what they possess at the time that they're being

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1 evaluated.

2 Q So the sexual identity relates to their

3 reproductive functioning, is that what I'm

4 understanding you saying?

5 A That is correct, in relation to how we understand

6 sex as a biological variable, but it also

7 includes the other aspects related to the

8 practice of medicine. Again, there is an entire

9 field of medicine recognizing sex-related

10 differences that are genetically encoded in every

11 cell of the body that will affect the functioning

12 and response to various drugs, to various

13 endogenous hormones, disease susceptibility and

14 the like.

15 Q What is the sexual identity of a patient with CAH

16 who has at birth typically male appearing

17 genitalia but XX chromosomes?

18 A So just to be clear, you're talking about

19 congenital adrenal hyperplasia, which in the most

20 severe forms, if you have an individual with an

21 XX karyotype that has had significant

22 virilization so that the appearance of the

23 genitalia appears male, these individuals have

24 ovaries, they have a uterus, and they, if

25 recognized and treated, will have the capacity to

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1 conceive and gestate new life, so they would be
2 clearly female in their sexual identity.
3 Q And the -- is their female sexual identity based
4 on their capacity to carry new life, as you say?
5 A So it's in relation to the body itself and its
6 orientation toward that reproductive potential.
7 It's not to say that everyone that has -- in
8 general, with or without adrenal hyperplasia,
9 will be able to or choose to reproduce, but it
10 means that what is the -- present within that
11 individual in its orientation toward that
12 reproductive purpose, so I would say that
13 somebody that has an XX karyotype that has
14 ovaries that's able to make ova, that has a
15 uterus, those are all characteristics that we
16 recognize for the female sex, and therefore in
17 that relation, that would be their sexual
18 identity.
19 Q And what about someone who has complete androgen
20 insensitivity syndrome with XY chromosomes and
21 typical female appearing external genitalia, what
22 would be their sexual identity?
23 A That is an excellent question, and I think it's
24 debated depending on how one weights the various
25 components.

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1 Again, when we talk about disorders of
2 sexual development, when one has normally formed
3 and functioning sexual anatomy, there is no
4 confusion about what the sexual identity is.
5 When one presents with a disorder of sexual
6 development, the degree of ambiguity leads to
7 uncertainty as to the true sexual identity, and
8 that is really the only situation where one makes
9 a tentative assignment trying to understand best
10 of what's going on.
11 There are some that will argue because the
12 one has testes, that they would classify them as
13 male. There are others who would classify them
14 as female, because if you look at an effect, they
15 don't have the full complement of what is
16 necessary to engage in sexual function as either
17 male or female. If one weighs the appearance of
18 the -- or the structure of the genitalia to be
19 receptive in the role that normally is assumed by
20 a female, recognizing that the testes themselves
21 require androgens to be able to make sperm so
22 that they're completely infertile, so even though
23 they have testes, they will never be able to have
24 viable sperm, there are some that would designate
25 the sexual identity as female.

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1 But, again, I would say in those very rare
2 circumstances, one can accept that there's
3 ambiguity and one is not able to make a
4 definitive assessment of the true sexual
5 identity.
6 But what the practitioner does, those that
7 are involved in the care of these individuals, is
8 to assess what they do have in relation to sexual
9 function and then to make a treatment plan that
10 will help facilitate that -- that sexual role
11 that that individual can carry out.
12 Q Could two different people with CA -- CAIS, so --
13 could two people with complete androgen
14 insensitivity syndrome have different sexual
15 identities?
16 A No, they have one sexual identity, but the
17 external observer trying to assess what that is
18 may come to different conclusions, so there is a
19 sexual identity, but one may not be able to
20 definitively establish what that sexual identity
21 is.
22 Q And then on this same paragraph 19, but on the
23 next page, starting with "Current practice." So
24 here, Doctor, you write, "Current practice is to
25 defer sex assignment until the etiology of the

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1 disorder is determined and, if possible, a
2 reliable prediction can be made on likely
3 biologic and psychologic outcomes. When this
4 cannot be done with confidence, a presumptive sex
5 assignment is made. Factors used in making such
6 decisions include karyotype, which 46" -- sorry,
7 in parens, "(46XX, 46XY or other), phenotypic
8 appearance of the external genitalia and parental
9 desires. The availability of new information
10 can, in rare circumstances, lead to a change in
11 sex determination."
12 Did I read that correctly?
13 A You did.
14 Q What new information would be relevant in this
15 context?
16 A Well, we can return to the example of complete
17 androgen insensitivity and -- and recognize that
18 the information about fertility was not known at
19 the time of birth. It wasn't even questioned.
20 If we understand the etiology, there are
21 conditions, for example, that aren't recognized
22 early on as to more incomplete cases of androgen
23 insensitivity, how well they will respond.
24 Again, it's not always complete. You can have
25 partial androgen insensitivity. Some of those

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1 individuals will be able to respond to higher
2 doses of androgen, some will not, and that is an
3 example of the information that one does not have
4 at the time in the neonatal period that could
5 lead to a change in -- in how we address that
6 individual and provide care to that person.
7 Q And would that new information include how the
8 person feels about their sexual identity?
9 A It -- it certainly is a component. We try to get
10 all of the information that we have. Again, we
11 are dealing with individuals that at the time of
12 evaluation have absent or impaired fertility or
13 sexual function, so I think it -- recognizing
14 that there is a disorder of the sexual
15 differentiation process, one needs to assess all
16 of the components about that individual that will
17 affect their ability to engage in whatever
18 capacity they have, which is understood to be
19 incomplete.
20 Q But for this subset of humans, how they feel
21 about themselves would be a relevant
22 consideration; is that right?
23 A It would have to be in the setting of if you have
24 somebody that does not have a clear male or
25 female sexual identity and has a limited capacity

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1 of how they're going to engage within the sexual
2 realm, that would be an important consideration,
3 yes.
4 Q And later in that paragraph, towards the bottom,
5 you write, "Decisions on whether to surgically
6 alter the external genitalia to align with sex
7 are generally deferred until the patient is able
8 to provide consent."
9 Did I read that right?
10 A Yes.
11 Q Why is that?
12 A Well, because we -- this is actually a very
13 important point. When I trained 30-some years
14 ago, it was believed that one needed to make a
15 definitive determination of sexual identity and
16 then to engage in the surgical intervention to
17 align the appearance of the genitalia to that sex
18 assignment.
19 We recognized that often we were wrong. We
20 also recognized, you know, that there was more
21 information that could be available in life that
22 would impact that, and in this area there has
23 been increased caution in being able to intervene
24 until we have a better sense of all of the
25 factors that can -- that may not be present at

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1 the time of the initial evaluation that may
2 impact the sexual function of that individual.
3 So it's actually moved toward increasing caution,
4 recognizing the uncertainty that one has, which I
5 would say is in stark contrast to what's going on
6 now in the area of gender dysphoria.
7 Q And can surgeries done on infants with DSDs
8 impact their ability to orgasm?
9 A Yes.
10 Q And can surgeries done on infants with DSDs carry
11 risk?
12 A Yes.
13 Q And are all the surgeries done on infants with
14 DSDs supported by long-term studies showing
15 benefit?
16 A So let's -- let's -- so in order for me to
17 adequately address your question, we have to look
18 at the circumstances in which surgery will be
19 done in that period of infancy.
20 Q I can narrow the question, if that will save us
21 time, which is just to say are -- are surgeries
22 that are done for the sole purpose of conforming
23 the appearance of external genitalia to the sex
24 assignment supported by long-term studies showing
25 benefit?

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1 A There are ongoing studies, and that was the basis
2 for which the change in the approach was made
3 about individuals that had adverse effects of the
4 surgeries that were done. You mentioned one of
5 them as far as orgasm and sexual function.
6 The -- the studies actually supported the fact
7 that there was many individuals that reported
8 harms by doing surgery early on, and -- and that
9 was one of the reasons for deferring any surgical
10 interventions until later in life.
11 Q Are you aware that Senate Enrolled Act 480
12 explicitly exempts from prohibition any surgery
13 performed on a patient with a DSD even if such
14 surgery is solely to align the appearance of the
15 external genitalia with the sex assignment?
16 MR. RAMER: Objection to form.
17 A Again, I'm not testifying on the legal aspects of
18 this, I'm not a politician, I'm not a lawyer, but
19 the reason for doing surgeries on -- in infancy
20 for disorders of sexual development are usually
21 limited to those that have significant medical
22 risk. There can be a malplacement of the urethra
23 that leads to a predisposition to urinary tract
24 infections. There can be urinary outflow
25 obstruction. There can be a malignancy risk by

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1 having a dysgenetic testes that are present
2 within the abdomen. There are many reasons why
3 one would choose to do surgery earlier.
4 Again, this is an area that is -- again,
5 there's -- there's ongoing discussion within the
6 DSD community about the optimal timing of surgery
7 or not. There's many that recognize that blanket
8 prohibitions on doing surgery really carry
9 themselves medical risk when you have situations
10 where intervention is required early on, but most
11 of the practitioners, myself and those that are
12 involved in the care of patients with DSD, if it
13 is merely for cosmetic reasons, will defer that
14 until later.
15 Q And we heard in a deposition that there are
16 hospitals in Indiana that are performing genital
17 surgeries on infants solely to alter the
18 appearance of the infant's external genitalia.
19 Do you agree with that practice?
20 A I'm not --
21 MR. RAMER: Objection to form.
22 A I'm not familiar with -- with what you're
23 referring to, so I couldn't comment on that. I
24 don't know the circumstances of the decisions
25 that were made to make that decision, so I can't

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1 comment.
2 Q But you think that prudent professionals could
3 have a different approach to the surgical
4 treatment of infants with DSDs; is that correct?
5 MR. RAMER: Objection to form.
6 A So my involvement in the care of patients with
7 DSDs is involving many different layers of
8 consideration as far as what's in the best
9 interests of that patient, looking at their
10 overall risk and benefit of early or delayed
11 surgical intervention.
12 Q Okay. So in your declaration that we've been
13 discussing, you talk about different endocrine
14 conditions that you treat in your practice, so I
15 wanted to talk about some of those.
16 Is central precocious puberty a condition
17 that you treat?
18 A Yes.
19 Q And do you treat central precocious puberty with
20 GnRH analogues?
21 A Yes.
22 Q For natal males and natal females?
23 A Yes.
24 MR. STRANGIO: And so if we could go to
25 paragraph 61, page 35 of your declaration. 35,

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1 61, okay. Can you scroll down a bit. Sorry.
2 Q Yeah, so here it's at the top of page 35, you
3 write, "The evidence for the safety and efficacy
4 of puberty suppression in boys is less robust,
5 chiefly since precocious puberty is much rarer in
6 boys."
7 Did I read that correctly?
8 A That is correct.
9 Q Is it the case that sometimes with rare
10 conditions, there is less evidence supporting a
11 particular intervention?
12 A That is very true in many areas of medicine.
13 Again, any decision made is based upon the
14 relative risk versus the relative benefit of the
15 intervention, so that's not unique to -- to one
16 particular area of medicine. That's true for all
17 of medicine.
18 Q And at what age, you know, just even a range, do
19 you generally take patients with central
20 precocious puberty off of the GnRH analogue?
21 A Generally we will usually stop the GnRH agonist
22 when they reach the age of normal puberty. It
23 will be -- the length of treatment will be
24 influenced by the degree of bone age advancement,
25 the affect that one may potentially have on

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1 height, but it also takes into consideration the
2 effects of delaying puberty beyond the normal
3 time as an adverse effect on things such as bone
4 health.
5 Q But, generally speaking, it's an individualized
6 assessment for each patient based on the typical
7 pubertal age and other medical factors; is that a
8 fair summary?
9 A It is. In general, between 10 and 12 years of
10 age is usually the limit of when one will
11 continue that intervention.
12 Q Same for natal males and natal females?
13 A Slightly different, but very similar.
14 Q What's the difference?
15 A Normal male puberty happens later than in
16 females.
17 Q And in terms of years, when did you begin to
18 treat central precocious puberty with GnRH
19 analogues?
20 A I've been doing that throughout my career.
21 Q So that would be going back to the 1990s?
22 A Yes. '97 is when I started my fellowship
23 training.
24 Q And if we could go to paragraph 43 on page 23.
25 Here you have -- you write, "A 2009 consensus

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1 statement of pediatric endocrinologists concluded
2 that GnRH analogues are an effective way to
3 improve the height of girls with onset of puberty
4 at less than six years of age and also
5 recommended the treatment to be considered for
6 boys with onset of precocious puberty who have
7 compromised height potential."
8 Did I read that correctly?
9 A Yes, you did read that correctly.
10 Q Are there any randomized controlled trials
11 supporting the use of GnRH analogues to treat
12 central precocious puberty to improve adult
13 height?
14 A There -- to my knowledge, there's not a
15 randomized controlled trial. There -- the
16 comparators are between those that did and did
17 not receive the GnRH agonists as far as their
18 effects on final height.
19 Q Sorry, to go back there, there are no randomized
20 controlled trials, though, supporting the use of
21 GnRH analogues to treat CPP to improve adult
22 height; is that right?
23 A Correct. My understanding is that the data
24 compares those that did and did not receive
25 analogues and it was not in the setting of a

Page 115

1 randomized controlled trial.
2 Q Does pubertal suppression on its own permanently
3 impair fertility?
4 MR. RAMER: Objection to form.
5 A The evidence that we have in the treatment of
6 central precocious puberty where one uses the
7 medication to resume the normal quiescent state
8 of the inactivity of the pituitary gonadal axis
9 has not been shown to have any adverse effects on
10 fertility.
11 Q And then on page -- sorry, excuse me, paragraph
12 62, so that's a few pages -- I don't know the
13 page number actually for this. Oh, it's probably
14 around 35. So here -- yeah, right there,
15 paragraph 62. You write, "Unlike children
16 affected by precocious puberty, adolescents with
17 gender dysphoria do not have any physiological
18 disorders of puberty that are being corrected by
19 the puberty-suppressing drugs."
20 Did I read that correctly?
21 A Yes, you did.
22 Q Presumably a patient could have both central
23 precocious puberty and gender dysphoria; right?
24 A Conceivably, yes.
25 Q And for that patient, would you agree that

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1 pubertal suppression would be appropriate?
2 A Yes.
3 MR. RAMER: Objection to form.
4 A So -- so if you're asking about the treatment
5 with a GnRH agonist for a patient that has
6 central precocious puberty, that would be an
7 indication because that individual would be
8 having premature activation of the
9 hypothalamic-pituitary-gonadal axis.
10 Q And here you also write, "The fact that children
11 with suppressed precocious puberty between ages 8
12 and 12 resume puberty at age 13 does not mean
13 that adolescents suffering from gender dysphoria
14 who puberty -- whose puberty is suppressed
15 beginning at age 12 will simply resume normal
16 pubertal development later if they choose to
17 withdraw from the puberty-suppressing treatment
18 and choose not to undergo other sex reassignment
19 procedures."
20 Did I read that right?
21 A You did read that correctly.
22 Q As I understand it, a natal female could begin
23 puberty at age eight, a normal timed puberty; is
24 that right?
25 A Actually, there's some data that suggests that

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1 you could begin puberty even younger, as early as
2 seven years. Generally when it occurs earlier,
3 the tempo of progression is slow. The earliest
4 age of menarche for a female still remains ten
5 years.
6 Q And so if a natal female diagnosed with gender
7 dysphoria begins puberty at age eight and then
8 goes on to blockers and then at age twelve goes
9 off the blockers, would that presumably be
10 different as the same patient with CPP who you
11 mentioned above who would go off of blockers at
12 age twelve?
13 MR. RAMER: Objection to form.
14 A So most often when we have patients, it depends
15 on when they present to the practitioner and what
16 their height potential is and how much the bone
17 ages have been advanced. There are many that
18 would present with precocious puberty at that age
19 that would not be treated with GnRH agonists, but
20 there would be -- so it does -- if they started
21 after age eight, they do not have precocious
22 puberty and that would be very different. If
23 they had clear clinical evidence that their
24 puberty began precociously and they were at a
25 later stage, Tanner stage, of development at

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1 eight years of age, leading to the likelihood
2 that they would have premature closure of their
3 growth plates and premature menarche, that would
4 be an indication for suppressing that puberty
5 until that time to account for that, so I think
6 they are different.
7 The way you asked the question would not be
8 a situation that one would encounter, that if you
9 had puberty at eight years of age, that somebody
10 who was just turning Tanner stage 2 with normal
11 linear growth, no bone age advancement, they
12 would not be placed on a GnRH agonist.
13 Q But if they were placed on a GnRH agonist for
14 gender dysphoria, it's your view that the four
15 years from eight to twelve on that GnRH agonist
16 for the gender dysphoria would be different than
17 the treatment for precocious puberty; am I
18 understanding you correctly?
19 MR. RAMER: Objection to form.
20 A So, yes, they would be different in several
21 respects. They are different in that one is
22 interfering with a normally timed puberty. They
23 also would -- again, for the purposes of treating
24 gender dysphoria, there are effects on growth,
25 pubertal development, but also the likelihood

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1 that one will go on to later stages of
2 intervention, so there's many differences between
3 those two scenarios and they are not the same
4 condition.
5 Q So, but even though both patients would begin
6 puberty at age 12 endogenously when they went off
7 the blocker, is that your position?
8 MR. RAMER: Objection to form.
9 A They would not have been equivalent at the time
10 the intervention was begun. The whole reason you
11 would make the diagnosis of precocious puberty
12 would be influenced by the timing, the tempo and
13 the final height prediction of that individual.
14 And if you -- and by definition they would be
15 different and not the same.
16 Q And what would be the different health outcomes
17 that you have seen in evidence?
18 MR. RAMER: Objection to form.
19 A So -- so just so I'm clear about what's your
20 question, you say what is the different outcome
21 in somebody that has normally timed puberty, that
22 has normal age of initiation of puberty, that
23 does not have bone age advancement, that is not
24 predicted to have menarche before ten years of
25 age as opposed to somebody that does, is that

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1 what you're asking?
2 Q In the circumstance when both patients go on the
3 pubertal blockade for the different reasons, but
4 come off it at the same time and undergo their
5 endogenous puberty at the same time.
6 A So the antecedent to the introduction of that
7 intervention, there were things that were going
8 on in the patient with precocious puberty that
9 would not be present in the person that did not
10 have precocious puberty and therefore the
11 influence on things like growth, age of menarche
12 and -- and bone density would be different.
13 Q Are you aware of any studies showing the
14 differences between those two populations of
15 people?
16 A I am, but not in direct comparison. I'm aware of
17 studies that specifically look at the effects of
18 pubertal blockade in individuals with central
19 precocious puberty and those that examine the
20 effects of pubertal blockade in those with gender
21 dysphoria. That literature has been -- for the
22 central precocious puberty is readily available.
23 It's the whole basis by which there are many
24 patients that I have that would prefer to have
25 puberty indefinitely postponed and have to show

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1 them the data that shows that -- that by
2 interfering with puberty, there's a limit that is
3 considered, again, the risk versus benefit, and
4 that's why we only do it for a defined period of
5 time.
6 Q Is the limit based on the length of time on the
7 blockade or the age at which you take a patient
8 off the blockade?
9 A It is those factors and more. It is based upon
10 also the maturation of the skeleton, the bone age
11 of that individual.
12 Q Okay. I want to turn back to your CV, which is
13 Exhibit 2, and going down to the invited
14 publications on page 11.
15 Okay. I think that's the right place.
16 So two of your invited publications were
17 published in the National Catholic Bioethics
18 Quarterly; is that correct?
19 A Yes.
20 Q And so I want to pull up Exhibit 10, which is the
21 Information for Authors, the Submission
22 Guidelines, which I know, Doctor, we've gone
23 through these before.
24 So have you seen this document?
25 A In the context of prior depositions, yes.

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1 Q And this is, as it states, the Information for
2 Authors and Submission Guidelines for the
3 National Catholic Bioethics Quarterly.
4 Any reason to doubt that that's what this
5 is?
6 MR. RAMER: Objection to form.
7 A No reason -- no reason to doubt.
8 Q And so I'm just going to read the beginning of
9 the submission guidelines, which state as
10 follows: "The National Catholic Bioethics
11 Quarterly is the official journal of the National
12 Catholic Bioethics Center, an organization
13 dedicated to research and the analysis of moral
14 issues arising in health care and the life
15 sciences. The NCBQ seeks to foster intellectual
16 inquiry on moral issues by publishing articles
17 that address the ethical, philosophical,
18 theological and clinical questions raised by the
19 rapid pace of modern medical and technological
20 progress. Inspired by the harmony of faith and
21 reason, the NCBQ unites faith in Christ to
22 reasoned and rigorous reflection on the findings
23 of the empirical and experimental sciences.
24 While the NCBQ is committed to publishing
25 material that is consonant with the magisterium

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1 of the Catholic Church, it remains open to other
2 faiths and to secular viewpoints in the spirit of
3 informed dialogue."
4 Were you aware of this mission of the
5 journal when you were invited to submit your
6 articles for publication there?
7 A I don't recall reading this particular paragraph,
8 but it was my general understanding, and I've had
9 conversations with those on the editorial board
10 of the journal, recognizing that the relationship
11 between faith and reason and the importance of
12 having scholarly articles that focus on
13 scientific evidence.
14 Q What does it mean to be consonant with the
15 magisterium of the Catholic Church?
16 MR. RAMER: Objection to form.
17 A I'm not testifying as a theologian and I'm not
18 qualified to do so.
19 My understanding is -- is that they're
20 speaking about areas related to the faith part of
21 that component of faith versus reason.
22 In my experience, I have never encountered a
23 situation where the scientific evidence
24 contradicts anything in the area of faith, which,
25 again, is outside my area of expertise.

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1 Q So you've never encountered in your work anything
2 where the scientific evidence is counter to the
3 issues of faith, is that how you phrased it?
4 A I would say --
5 MR. RAMER: Objection to form.
6 A I would say that they are two different domains
7 of investigation, of academic or spiritual, you
8 know, understanding. They speak to different
9 questions, they have different tools, but in my
10 experience as a physician scientist, I have not
11 encountered anything that is in contradiction,
12 recognizing that they address different topics.
13 Q You haven't encountered anything that is in
14 contradiction with what?
15 MR. RAMER: Objection to form.
16 A So in my scientific understanding of things that
17 could be understood, confirmed scientific
18 investigation, I've not encountered any
19 scientific findings that would contradict
20 anything that is stated by the -- the Church.
21 Q And so are your articles consonant with the
22 magisterium of the Catholic Church?
23 MR. RAMER: Objection to form.
24 A I will again state that I'm not a theologian and
25 that I don't make a claim to be able to know that

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1 with any certainty. I'm not aware of any
2 contradictions.
3 Q And one of the book chapters that you wrote was
4 in the book "Transgender Issues in Catholic
5 Health Care," and that was published by the
6 National Catholic Bioethics Center; is that
7 right?
8 A That is correct.
9 Q And you also received a certificate in healthcare
10 ethics from the National Catholic Bioethics
11 Center?
12 A Yes.
13 Q And so let's pull up Exhibit 11. And this -- I
14 know we've also looked at this document together,
15 Doctor. This is the National Catholic Bioethics
16 Center 2016 "Brief Statement on Transgenderism."
17 If you could scroll down a bit, you can see the
18 citation there on the National Catholic Bioethics
19 Center. There you go.
20 So you've seen this document before; is that
21 right?
22 A Yes.
23 Q And on page 602, which is going to be a few pages
24 in -- we can stop there. In this paragraph under
25 the subheading in italics "Catholic Health Care,"

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1 it's -- the statement says as follows, "In light
2 of the scientific evidence showing that
3 transitioning has no demonstrated long-term
4 therapeutic benefit, and in light of Catholic
5 teaching about the nature of the human person, no
6 Catholic health care organization should
7 establish policies that positively affirm the
8 choice of any behavioral, hormonal, or surgical
9 gender transitioning of patients, personnel or
10 other persons served by the organization. In
11 addition, no Catholic health care organization
12 should require its personnel to carry out,
13 promote, refer for or otherwise cooperate
14 formally in procedures involved in gender
15 transitioning, especially surgical or hormonal
16 interventions; require the use of pronouns or
17 sex-specific identifiers that are explicitly
18 contrary to a person's biological sex; or
19 otherwise require the affirmation of a false
20 sexual identity for any persons who are or are
21 planning on transitioning."
22 Did I read that correctly?
23 A If you're asking if you read the text there
24 correctly, yes.
25 Q Do you agree that no Catholic health care

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1 organization should have policies that positively
2 affirm the behavioral, hormonal or surgical
3 gender transitioning of patients, personnel or
4 other persons served by the organization?
5 MR. RAMER: Objection to form.
6 A I will state very clearly again that I am not
7 serving as an expert witness as a theologian and
8 don't hold opinions for this case in relation to
9 that. Neither do I work at a Catholic healthcare
10 institution. I work at a secular university, and
11 therefore this is outside of the scope of my area
12 of expertise.
13 Q Do you have personal beliefs that align with this
14 articulation in this -- in this paragraph?
15 MR. RAMER: Objection to form. Beyond the
16 scope.
17 A I have many personal beliefs that I hold on a
18 number of different topics. And in my role as a
19 physician scientist, one needs to assess the
20 scientific evidence, the component here that is
21 in this statement here, and that is the purview
22 that I am offering to this court in relation to
23 the scientific evidence.
24 And I would agree, as I stated repeatedly in
25 my declaration, that the scientific evidence in

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1 relation to the affirmative model for gender
2 dysphoria is based upon low quality of evidence
3 with questionable -- questionable long-term
4 benefits, many concerns. And in that respect,
5 that is what I understand to be in agreement with
6 the statement in this paragraph.
7 Q And does that include what this statement refers
8 to as the use of pronouns or sex specific
9 identifiers that are explicitly contrary to a
10 person's biological sex?
11 MR. RAMER: Objection to form. Beyond the
12 scope.
13 A It is -- as I said before, I am an expert as a
14 pediatric endocrinologist and physician
15 scientist. I am not a theologian. I am not
16 offering opinions related to areas outside of my
17 area of expertise.
18 Q Well, as a physician scientist, what is your view
19 of using pronouns or sex specific identifiers
20 that are explicitly contrary to a person's
21 biological sex?
22 MR. RAMER: Objection to form and scope.
23 A So I would say that it is important to recognize
24 sex-based differences between males and females
25 when one generates a differential diagnosis in a

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1 treatment plan for any patients. To the extent
2 that one clouds that recognition and influences
3 one's generation of that differential diagnosis
4 or treatment plan, that one needs to maintain and
5 be aware of the sexual identity of that
6 individual to deliver proper care to that
7 individual.
8 In that respect, it is important to
9 maintain -- to recognize and to maintain the
10 sexual identity of that individual who is being
11 cared for.
12 Q Is sexual identity the same as pronoun use?
13 A In my experience as -- as a physician in
14 practice, that when one uses pronouns that are
15 not in accord with one's sexual identity, it
16 leads to tremendous confusion and difficulty in
17 being able to maintain that biological
18 perspective.
19 I've been present on rounds where
20 sex-discordant pronoun usage has been used and I
21 have seen directly the ways in which that
22 influences one's decision-making in an adverse
23 way. I'm also aware of other reports and
24 examples for which that has occurred in other
25 settings outside of my institution, again, more

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1 hearsay, but certainly I do think that it can
2 affect one's effectiveness as a physician if one
3 loses sight of or does not fully appreciate the
4 sexual identity of the individual and using
5 sex-discrepant pronoun usage does have an
6 influence on one's thinking.
7 Q Do you think that a physician scientist who is
8 treating patients with CAIS who lived entirely as
9 a woman and used female pronouns for that
10 individual could continue to treat her even
11 though she had XY chromosomes?
12 MR. RAMER: Objection to form.
13 A Well, again, I'm not fully understanding your
14 question. Can you repeat that in a way that I
15 can fully understand?
16 Q Well, you said that -- well, as I understand it,
17 you said that use of pronouns can -- can impact
18 the ability of a medical provider to treat, as I
19 understand it, the sort of biological components
20 of sex. Is that part of what you were -- what
21 you were explaining?
22 A Yes.
23 Q And that previously we were talking about certain
24 individuals who have disordered -- excuse me --
25 yeah, who have disorders of sexual development.

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1 Is that -- is that a population of people that
2 exist, we can agree on that?
3 A Yes.
4 Q And so one of those people might be someone with
5 CAIS, complete androgen insensitivity syndrome,
6 who may have male chromosomes and other typically
7 male biological features but who would likely use
8 the pronouns, say, she/her.
9 Would use of the pronouns she/her for that
10 individual impair the physician's ability to care
11 for that patient?
12 MR. RAMER: Objection to form.
13 A It's a very broad question. Depends on -- on the
14 medical complaint that is coming for attention,
15 as some would be yes and some would be no.
16 Q So how would -- how would one ensure that that
17 individual is properly treated for all of the --
18 the indications they may come to -- to treatment
19 for?
20 MR. RAMER: Objection to form.
21 A So as a clear example of that, there is the
22 question of having those XY chromosomes and a
23 gonad that is dysfunctional on the cancer risk of
24 that individual, recognizing that they have the
25 dysfunctional gonads and one needs to properly

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1 assess that risk. One needs to understand if the
2 question -- the most common reason why that
3 individual would come to the attention of an
4 endocrinologist is when they experience primary
5 amenorrhea, meaning that they go through puberty,
6 including breast development, they don't have any
7 pubic hair or axillary hair development and
8 they're not menstruating. That's usually the
9 situation where we first recognize that they have
10 the condition. It would -- again, the pronoun
11 use is not at issue here. It is recognizing the
12 reason for the amenorrhea and being able to
13 counsel that patient on any health risks that
14 they have related to their condition, being able
15 to explain to them the basis of the disorder that
16 occurred, and certainly which often comes as a
17 very difficult conversation about their
18 infertility that they have.
19 Q But at some point it might be that you would
20 refer to this patient by a pronoun and still be
21 able to treat all of these physical presentations
22 that they appear with, isn't that -- isn't that
23 right?
24 MR. RAMER: Objection to form.
25 A Again, you're making some -- a very broad

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1 statement. I think there are some aspects of the
2 care that would require recognition of the
3 underlying disorder of sexual development and
4 other aspects that would be independent of that.
5 In that situation, I think using the female
6 pronouns would not be problematic. And, in fact,
7 in my own experience that is generally what is
8 done for these affected individuals.
9 Q But when you are treating the underlying disorder
10 of sex development, is using the female pronoun
11 problematic?
12 MR. RAMER: Objection to form.
13 A As I said before, one needs to -- this is --
14 you're asking a very rare condition that applies,
15 you know, to a unique situation in which there
16 may be lack of clarity on sexual identity. There
17 are different factors that apply to an individual
18 that has a disorder of sexual development.
19 Generally speaking, those that are
20 recognized to have a DSD are not going to be
21 misperceived by claiming that they have -- don't
22 have that disorder.
23 You -- for example, you're not going to have
24 a situation where you have a female XX individual
25 that presents with abdominal pain using male

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1 pronouns not telling their practitioner that they
2 are biologically female and not being able to
3 entertain the diagnosis for abdominal pain of
4 being related to pregnancy and labor. That's an
5 example, you wouldn't encounter that in a patient
6 with a DSD.

7 So, again, to make a blanket statement about
8 a rare condition and the application of these
9 general principles -- and, again, they are
10 general principles that need to be applied to
11 unique patient situations, about the prudence of
12 doing that.

13 As I understood your initial question, it
14 was can it influence the accuracy of diagnosis,
15 and the answer is yes.

16 Q I don't think that that was my actual initial
17 question, but we can -- we can move on because
18 it's been a while here.

19 So if we could pull up Exhibit 12. And this
20 is one of your articles, I believe, in the
21 National Catholic Bioethics Quarterly. Does this
22 look like, "The Use of Cross-Sex Steroids in
23 Treatment of Gender Dysphoria," was this --

24 A Yes.

25 Q And this was published in the National Catholic

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1 Bioethics Quarterly; is that right?

2 A Yes.

3 Q And if we could go to page 662 of -- of the
4 article. I think -- no, no, if you scroll down,
5 the numbers are at the top, so it's right here.

6 And just at the top of the page, first
7 complete sentence, so in this article you write,
8 "In stark contrast to Pope St. John Paul II's
9 teaching on the theology of the body, which
10 illuminates a teleological complementarity
11 between male and female forms and an inseparable
12 unity of body, mind and soul, it is now openly
13 argued that the mind alone can and in some cases
14 should determine, or at least influence, reality
15 in medical practice."

16 Did I read that correctly?

17 A Yes, you did.

18 Q And how does Pope St. John Paul II's teaching
19 come into your scientific analysis?

20 MR. RAMER: Objection to form.

21 A Well, I would state again, in the opinions that
22 I'm offering in this case, I'm focusing on issues
23 of science and best medical practice. I'm not
24 making an argument based upon theological
25 understanding, yet that does not mean that I do

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1 not have a recognition of when we speak about the
2 complementarity between male and female forms, it
3 actually speaks to what I discuss in my
4 declaration of the unique roles of males and
5 females in that reproductive process, that the
6 physical structures of the body are intrinsically
7 oriented toward the respective roles of males and
8 females in that reproductive process, that that
9 is something that is central to the human body
10 and it reflects a purpose.

11 The teleological complementarity relates to
12 the unique role of males and females that are --
13 that are designed by their very nature to
14 participate in that reproductive engagement.

15 Q And so would this be an area where you have found
16 that your scientific inquiry is not in
17 contradiction with the teachings of the church?

18 MR. RAMER: Objection to the form.

19 A So, again, in relation to an understanding of
20 male and female in the biological realm,
21 independent of any theological assumptions, there
22 is a well recognized complementarity between male
23 and female forms. There are, indeed, in fact,
24 not only the physical structures involved in
25 the -- in the act of sexual intercourse, but also

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1 in the genetic differences between males and
2 females that pertain to the unique roles of males
3 and females in the rearing of children that come
4 from that reproductive act.

5 We see this in the animal kingdom well
6 beyond humans in which there is -- there are
7 traits that males have more predominant than
8 females, again, there's significant overlap, that
9 give an advantage in different roles in raising
10 offspring. For example, the role of increased
11 lean body mass certainly is an advantage for
12 being a protector, defender and a gatherer of
13 nutrition in the male. It comes at a cost in
14 decreased life span, increased infection risk.
15 There are roles in the female body that pertain
16 to the nurturing role, the ability to breastfeed
17 and nurture offspring that come with different
18 costs, increased adiposity, decreased lean body
19 mass can be -- is clearly different between males
20 and females. There are differences in the female
21 body as far as susceptibility to autoimmune
22 diseases which is necessary in relation to being
23 able to gestate an individual that has unique DNA
24 within their own body.

25 So, again, the scientific understanding of

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1 male and female and the complementarity between
2 them from a purely scientific and biological
3 nature is entirely consistent with this
4 teleological complementarity that is addressed in
5 this paragraph in this paper.
6 Q And do you believe that males and females have
7 unique roles in child-rearing?
8 MR. RAMER: Objection to form.
9 A So I would say that -- as I said before, that
10 there's obvious differences between males and
11 females in that females are able to breastfeed
12 and males are not. Females are able to gestate,
13 you know, and be able to deliver babies. The
14 male has a role of delivering sperm to the
15 female, which is a unique role of the male, so
16 there are clear differences between males and
17 females.
18 And in the rearing of the children, now,
19 recognizing that there's overlap between these
20 traits and that there are roles that can be
21 assumed by both members of the -- of any species,
22 not just humans, there are -- there are distinct
23 advantages based upon the genetic and epigenetic
24 differences between the male and female.
25 Q And on page 671 of this article, which is the

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1 last page, I believe -- wait, go up. Sorry, the
2 beginning of the conclusion.
3 At the -- right below "Future Directions,"
4 the sort of second clause of that first sentence,
5 you write, "It is clear that the use of cross-sex
6 hormones for the treatment of gender dysphoria is
7 immoral."
8 Is that a medical assessment?
9 MR. RAMER: Objection to form.
10 A No. It is -- it is -- morality is in the realm
11 that's outside of -- although we could use the
12 word ethics, I think it's within the medical
13 practice to think about ethics, but morality and
14 the interrelationship between understanding of
15 morality and ethics are related but distinct.
16 Q Understood. So going, if we could, back to your
17 declaration, which is Exhibit 1, and paragraph
18 12, page 7, and here -- sorry, page 7, if you go
19 down a bit.
20 Right at the bottom there of that paragraph
21 before 13 you write, "I have also consulted
22 with" -- sorry, "I have also consulted with, met
23 with, and had detailed discussions with dozens of
24 parents of children with gender dysphoria to
25 understand the unique difficulties experienced by

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1 this patient population."
2 Did I read that correctly?
3 A Yes, you did.
4 Q And you're aware that one of the parents that you
5 met with recently testified at the trial in
6 Dekker in Florida; is that right?
7 A If you're referring to Ms. Hutton, yes.
8 Q Yes, I am. And in her testimony, she explained
9 that during the course of the conversation that
10 she had with you about her child with gender
11 dysphoria, you brought up the teaching of Pope
12 St. John Paul II; is that right?
13 MR. RAMER: Objection to form.
14 A To properly answer the question, I would need to
15 explain the context of that conversation.
16 Q I don't -- I don't -- I don't -- I don't want the
17 context. I just want to know did you bring up
18 the teaching of Pope St. John Paul II in your
19 conversation with Ms. Hutton?
20 MR. RAMER: Objection to form.
21 A As was asked and responded to in the trial
22 transcript, I answered yes to that. Yes, it was
23 referred to.
24 MR. STRANGIO: Okay. So I could keep going,
25 John and Doctor, or this is -- I'm sort of at the

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1 end of that particular line of questions, so we
2 could break for lunch, we could break short. Do
3 you have a preference? I'm amenable to either.
4 MR. RAMER: I defer to Dr. Hruz. It sounds
5 like he was inclined to take a short break and
6 keep pushing, which is fine with me.
7 THE WITNESS: Why don't we take ten minutes.
8 MR. STRANGIO: All right, let's take ten.
9 (At this time a recess was taken.)
10 Q All right. Just one -- one last question on the
11 last topic we were talking about, the -- sorry,
12 what is it called, the National Catholic
13 Bioethics Quarterly. And just one question. Is
14 treatment of patients with gender dysphoria with
15 gender-affirming care consonant with the
16 magisterium of the Catholic Church?
17 MR. RAMER: Objection to form.
18 A You're asking me a question that's outside of my
19 area of expertise that I'm testifying in this
20 case relating to a teaching of the National
21 Catholic Bioethics Center or the Catholic Church,
22 and I'm not opining on that.
23 Q But -- but it is a publication that you've
24 published in, that's correct; right?
25 A That is correct.

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1 Q And you received a certification in healthcare
2 ethics from this center; is that correct?
3 A That is correct.
4 Q But you have no sense of whether treatment with
5 gender-affirming care for patients with gender
6 dysphoria is consonant with the magisterium of
7 the Catholic Church?
8 MR. RAMER: Objection to form. Asked and
9 answered.
10 A That is a question related to a theological
11 issue, and I'm testifying as a physician
12 scientist, and my -- the basis of my opinions in
13 this case are based upon scientific evidence, not
14 theological principles.
15 Q Oh, I'm not asking if it's the basis of your
16 opinion. I'm just asking based on your
17 understanding, is the provision of
18 gender-affirming care to treat gender dysphoria
19 consonant with the magisterium of the Catholic
20 Church?
21 MR. RAMER: Objection to form. Asked and
22 answered. Beyond the scope.
23 A Again, I don't -- I don't have a basis to speak
24 for that organization and I'll reserve my
25 comments to my role as a physician scientist and

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1 pediatric endocrinologist.
2 Q And just one question on a topic we covered
3 earlier, and I think my understanding was limited
4 as to -- to the science, which is probably not
5 going to surprise you.
6 Going back to surgical interventions of
7 infants with disorders of sex development. So
8 taking one example, let's say surgical
9 intervention on the genitals of an infant with
10 CAH to create a more typical vagina appearance,
11 are there long-term studies showing benefit of
12 that surgical intervention?
13 A Actually there are studies that show difficulties
14 that these patients encounter when it is done at
15 that early age as far as the functioning of the
16 vagina, requiring dilation and things of that
17 nature later, and so that's one of the bases for
18 delaying intervention.
19 Q Okay. Thank you for clarifying that. So have
20 you ever heard the term social transition?
21 A Yes.
22 Q And what is your understanding of what social
23 transition is?
24 A That is the allowing of an individual that has
25 sex-discordant gender identity to assume

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1 asserting of pronouns, dress in agreement with
2 that gender identity that's discordant with one's
3 biological sex.
4 Q As a physician scientist, do you oppose social
5 transition as an intervention for patients?
6 MR. RAMER: Objection to form. Beyond the
7 scope.
8 A Although it's beyond what I'm offering in this
9 case, the question that I ask is what is the
10 effect of social affirmation in the likelihood
11 that one is going to proceed on to receiving
12 hormonal interventions. Again, as a physician
13 scientist and an endocrinologist, I'm aware of
14 the literature that shows quite clearly that
15 nearly -- that there is -- it's not a neutral
16 intervention, that those that are socially
17 affirmed are much more likely to proceed on to
18 pubertal blockade. Those that receive pubertal
19 blockade, almost all go on to receive cross-sex
20 hormones.
21 So in that context of assessing the effect
22 of social affirmation on the progression to
23 medical interventions, that is the realm that --
24 that I'm aware of as my -- in my role as a
25 physician scientist and endocrinologist.

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1 Q Does existing evidence tell you anything about
2 causation with respect to social transition and
3 the subsequent process of going on to puberty
4 blockade?
5 MR. RAMER: Objection to form and beyond the
6 scope.
7 A Again, beyond the scope of what I am testifying
8 about, but in general, the literature that is
9 available right now is very deficient in being
10 able to make any causal conclusions, merely
11 associations can be inferred, and that's based
12 upon the way that the clinical evidence has been
13 collected to date, based upon cross-sectional
14 surveys and other research tools that cannot
15 establish that causal relationship.
16 Q So you're not aware based on the evidence of a
17 causal relationship between social transition and
18 going on to puberty blockade to treat gender
19 dysphoria?
20 MR. RAMER: Objection to form and beyond the
21 scope.
22 A I think it is again beyond -- so, again, speaking
23 from the role of a pediatric endocrinologist, it
24 is an association that, again, one needs to
25 recognize in relation to when the pediatric

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1 endocrinologist would be called upon to -- to
2 intervene in this condition, so that is --
3 certainly as in other areas, one needs to
4 consider and -- but there's an absence of the
5 high quality studies that need to be done to
6 establish that causal relationship.
7 Q Is it your view that any psychological treatment
8 or social transition or affirmation are beyond
9 the scope of your expertise in this particular
10 case?
11 MR. RAMER: Objection to form.
12 A The -- the degree to which I am opining is
13 contained within my declaration, and it involves
14 really the -- the point at which the pediatric
15 endocrinologist is engaged in assessing the
16 relative risks and benefits of medical and gender
17 affirmation.
18 Q So in the past you have weighed in as -- as
19 amicus in at least one case involving the use of
20 pronouns at a university; is that right?
21 A Yes, many years ago, so if we're going to talk
22 about that, it would be good to bring up and
23 discuss within the context of where those
24 statements were made, but, yes.
25 Q We don't need to go into any amount of detail,

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1 but just some general questions about pronoun use
2 in adults. If you recall -- do you at least
3 recall that the case concerned an adult college
4 student and a professor?
5 A I would need more information to refresh my
6 memory on the specific document that you're
7 speaking of.
8 Q Well, so why don't we just speak in generalities
9 because we don't need to go through an amicus
10 brief, I don't think, but we can maybe come back
11 to it.
12 Do you believe it is a lie to refer to
13 someone by a pronoun other than the one that we
14 typically associate with their natal sex?
15 MR. RAMER: Objection to form.
16 A I will state again that if you're asking me to
17 opine on statements that were made in a document
18 that are taken out of context that may convey an
19 incorrect portrayal of how I made that statement,
20 I'm not able to do that.
21 Q I'm not reading from a document. I'm just asking
22 you as -- as Dr. Hruz, do you believe it is a lie
23 to refer to a person by a pronoun other than the
24 one that we typically associate with their natal
25 sex?

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1 MR. RAMER: Objection to form.
2 A So I would say using the word lie implies an
3 understanding of the intent of the individual and
4 their understanding, so, again, I would need to
5 look at the context of which that statement was
6 made.
7 I would say that if the statement is being
8 made in relation to accepting an understanding of
9 one's sexual identity that is not objectively
10 true, then it would at least be a false
11 statement, again, so that's -- that's the best I
12 can answer.
13 Q And in your -- starting with in your medical
14 practice, are you personally opposed to referring
15 to a transgender person by pronouns other than
16 the ones that align with their natal sex?
17 A So in my practice, one needs to be sensitive to
18 the individual and their individual needs. My
19 role is generally relegated to delivering care
20 for endocrinologic issues, and we've already
21 stated the basis by which I think it is very
22 important to maintain that sexual identity.
23 I can see circumstances where theoretically,
24 hypothetically one could establish a relationship
25 with a patient where that understanding could be

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1 maintained to be able to best serve that
2 individual. In my practice, I've not -- has not
3 necessitated me doing so. I think the most
4 compassionate way to maintain both the biological
5 reality of the patient that's presenting to me
6 for care and respecting where they're at with
7 their understanding of their gender identity is
8 to engage in a conversation where gender neutral
9 terms are used and therefore one can accomplish
10 the goal of accepting the sensitivity of one's
11 understanding of their sexual identity, but also
12 maintain that biological sexual identity that is
13 present, and that's been very effective for me in
14 my practice, and most -- actually, I've never had
15 a situation where a patient has objected to that.
16 Q And what about outside your practice, just in
17 your personal and professional life, with a
18 colleague or someone else, would you object to
19 referring to someone with pronouns different than
20 those typically associated with their natal sex?
21 MR. RAMER: Objection to form. Beyond the
22 scope.
23 A There are a multitude of types of circumstances
24 where conversations such as that might occur,
25 and, in general, I'm fairly consistent in my

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1 approach, and, therefore, because I do in my
2 medical practice, I tend to engage in those
3 conversations in the same way with colleagues in
4 other situations, but without having the details
5 of a context of the conversation and the person
6 that I'm speaking to, you know, I would say that
7 my general approach is to use gender neutral
8 language.
9 Q For every person or just people you perceive to
10 be transgender?
11 MR. RAMER: Objection to form. Beyond the
12 scope.
13 A So I think that it's pretty obvious in my
14 conversations with other people outside of the
15 area of gender dysphoria where one can use, you
16 know, the pronouns that are consonant with one's
17 biological sex. That is not something I think
18 about. I just -- as most people do.
19 Q But if you think a person might be expressing
20 themselves different than their biological sex,
21 you would use gender neutral pronouns; is that
22 right?
23 MR. RAMER: Objection to form. Beyond the
24 scope.
25 A Again, you're asking a hypothetical, and I think

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1 there are many circumstances that would influence
2 the answer to that question. And I've not
3 encountered situations that you're referring to
4 where there's ever been difficulty in having that
5 conversation with somebody, whether I suspected
6 or knew that they had a sex-discordant gender
7 identity, so, again, you're asking very general
8 questions that are private conversations with
9 individuals that would depend upon the
10 circumstances, and my approach is generally
11 consistent.
12 Q And when you say your approach is generally
13 consistent, that is to use gender neutral
14 language; is that right?
15 MR. RAMER: Objection to form. Asked and
16 answered.
17 A Actually that's not what I said. I -- I said
18 that in the situations where I perceive that
19 there may be difficulty in using a pronoun that
20 is consonant with one's sexual identity, I will
21 use gender neutral language. That applies only
22 to those situations where I have that perception.
23 And, again, I've never encountered any
24 conversations where one has been offended with
25 the way that I've referred to them.

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1 Q Do you consider the provision of gender-affirming
2 medical interventions to adolescents with gender
3 dysphoria to be a form of child abuse?
4 MR. RAMER: Objection to form. Calls for a
5 legal conclusion.
6 A So, again, I'm going to reiterate again that I'm
7 offering my expertise as a physician scientist, a
8 pediatric endocrinologist to the care of
9 individuals that are requesting medical
10 interventions that involve cross-sex hormones and
11 puberty blockers.
12 The question that you're asking me is
13 outside of the opinions that I'm offering in this
14 case and really involve a -- a question about --
15 you know, I would say that if one looks at what
16 the relative risk and benefit is and one has
17 concluded that one is engaging in an activity
18 that one has a high degree of confidence is
19 causing harm to that individual, then the
20 assessment would depend upon what the intention
21 and knowledge of that person would -- that was
22 engaging in that.
23 Generally in medicine, we tend to want to
24 maximize benefit and minimize harm, and there are
25 questions in relation to the engagement of

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1 gender-affirming medical interventions where one
2 is altering the body in a way that has
3 potentially irreversible effects on ability to
4 participate in reproduction, health risks, and
5 unknown -- and uncertain benefit.
6 Q Do you think, for example, the practitioners at
7 the Transgender Care Center at Washington
8 University are intentionally harming their
9 patients?
10 MR. RAMER: Objection to form.
11 A So you're asking me to speculate on what the
12 motivations are of my colleagues. I can only
13 share with you the conversations that I've had
14 with them as I shared with them my concerns about
15 the scientific evidence, the relative risks and
16 the purported benefits. Most of them are not
17 aware of the literature that I'm aware of and
18 that others that -- and -- or they don't
19 recognize the difficulties in the scientific
20 evidence base that is present.
21 Most of them believe that they are providing
22 help to these individuals. And there's a
23 profound disagreement based upon objective
24 scientific data in my conclusions versus their
25 approach.

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1 Q Is it your expert opinion that no individual can
2 ever benefit from gender-affirming medical care
3 to treat gender dysphoria?
4 A You're asking -- this is actually one of the
5 concerns I have with the way that the research is
6 presented. That is, in the area of scientific
7 investigation in medicine, one would be very
8 cautious about using a definitive statement of
9 that nature.
10 I think that the way I look at this is
11 assessing the relative risk versus relative
12 benefit and trying to maximize benefit and
13 minimize harm to these individuals based upon all
14 of the Belmont principles and ethics of medical
15 practice, so that I think it would be -- one
16 would be a very poor scientist if one began
17 making a definitive conclusion without
18 investigating.
19 I think many in the field here have made
20 those definitive conclusions on the contrary.
21 You know, I mean, they make the statements that
22 they know it's going to be beneficial when they
23 really don't have the evidence to support that,
24 so.
25 Q Who -- who has made that -- that statement that

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1 they know it's going to be beneficial for an
2 individual patient?
3 A Your own plaintiff witnesses have made repeated
4 statements in their declarations saying that this
5 is a form of intervention that has proven to be
6 effective and -- and it's contained well within
7 their declarations making definitive statements
8 about proven benefit that is not supported by the
9 scientific evidence.
10 Q Well, I think I'm asking you about the -- as to
11 an individual patient. Are you aware when -- of
12 someone saying I can prove -- I know that this is
13 going to benefit you definitively, is that
14 something you're personally aware of?
15 MR. RAMER: Objection to the form.
16 A That wasn't what I was referring to when I made
17 that statement. And you're asking me a question
18 about a conversation that an individual would
19 have with a private conversation between a
20 physician and a patient, and I'm not making that
21 claim. I'm only making the statement that many
22 that are supportive of the affirmative model have
23 made conclusions about a benefit that aren't
24 supported by the science.
25 Q Do you think that there may be some individuals

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1 for whom the relative benefits outweigh the
2 relative risks?
3 MR. RAMER: Objection to the form.
4 A As I stated previously, I think as a scientist,
5 one needs to be open to hypotheses and the
6 conduct of experimentation to be able to answer
7 those questions.
8 If I approached science with a conclusion
9 without evidence, that would not be proper
10 science.
11 Q I know that you're cautioning about sort of
12 speaking in categorical, but law is very
13 categorical and this is a circumstance in which
14 the law is operative to categorically restrict
15 care for everyone. It's not an individualized
16 weighing of the risks and benefits, so I just
17 want to get at sort of just -- you know, sort of
18 given that context, could there be someone,
19 just -- you know, even if it's a hypothesis that
20 there might be a person for whom the relative
21 benefits of the treatment might outweigh the
22 relative risks?
23 MR. RAMER: Objection to the form.
24 A So acknowledging that this is an incomplete
25 hypothetical with all of the circumstances not

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1 apparent in the discussion, if one were to
2 speculate whether a thousand people would be
3 harmed and one would be helped, one could argue
4 that prudence would suggest to prevent the harm
5 to that thousand individuals to -- at the risk of
6 preventing the benefit for that one.
7 Again, this is a hypothetical and it cannot
8 be answered definitively, and I think that in
9 medicine we often are -- encounter these
10 situations where we weigh relative risks versus
11 benefit, and in the rare exception, if the harm
12 is much greater or proportionate to potential
13 benefit without exploration of alternative
14 approaches that would not carry that same risk,
15 it would be imprudent as a physician to engage in
16 that medical practice.
17 Q Do you know any transgender people?
18 A Yes.
19 MR. RAMER: Objection to the form.
20 Q And do you know any transgender people who are
21 currently receiving gender-affirming medical care
22 to treat gender dysphoria?
23 MR. RAMER: Objection to the form.
24 A So you're asking me a personal relationship with
25 people that are receiving hormonal -- I already

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1 mentioned to you that I -- I am caring for people
2 in my clinic or in the hospital that are
3 receiving affirmative medical interventions as I
4 care for their other endocrine diseases, so I've
5 already actually answered that.
6 Q Any others outside your clinical practice?
7 MR. RAMER: Objection to the form. Beyond
8 the scope.
9 A It certainly is beyond the opinions I'm offering
10 in this case. But I would say that one of the
11 individuals that was an active participant in our
12 DSD clinic would fit into that category.
13 Q And has anyone ever told you that they benefited
14 from gender-affirming medical interventions to
15 treat their gender dysphoria?
16 MR. RAMER: Objection to the form.
17 A So you're -- you're asking -- well, I would say
18 that there are many that have the belief that
19 they are benefited by this intervention. I don't
20 rely upon those subjective data when I'm looking
21 at the scientific literature about what the
22 long-term outcomes are, which we don't have clear
23 answers, but I am aware of individuals that -- in
24 fact, Ms. Hutton in her testimony gave a story of
25 her experience with her child. I don't have the

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1 basis to assess, you know, the details of what's
2 going on in that particular case, but that is an
3 example of something that has been presented to
4 me where one has made that claim.
5 Q Turning back -- actually, just a quick question.
6 Have you ever treated any of the plaintiffs in
7 this case?
8 A No.
9 Q And have you ever practiced medicine in Indiana?
10 A No.
11 Q And do you have any personal knowledge of how
12 treatment is provided to adolescents with gender
13 dysphoria in Indiana?
14 A I do based upon the statements that are present
15 in the declarations of the experts in your case
16 and the claims that they are following the WPATH
17 guidelines.
18 Q But other than the documents in this case, do you
19 have any personal knowledge of how treatment for
20 gender dysphoria is provided to adolescents in
21 Indiana?
22 A Meaning have I directly been engaged in medical
23 practice in Indiana, no. Have I had direct
24 conversations with physicians that practice in
25 Indiana, no.

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1 Q So going to paragraph 21 of -- of your report, so
2 that would be Exhibit 1.
3 Paragraph 21, so maybe a few pages down. I
4 can see -- there we go. Thank you.
5 So this is where you're talking about gender
6 identity, and you write, "Gender identity refers
7 to a person's individual experience and
8 perception and unverified verbal" -- excuse me,
9 "unverified verbal patient reports of how they
10 experience being male or female or a combination
11 of these or other categories. The term gender
12 identity is controversial. There is no current
13 worldwide definition of gender identity accepted
14 by the relevant clinical communities. The
15 measurement error rate for gender identity is
16 unknown."
17 Did I read that correctly?
18 A Yes, you did.
19 Q What do you mean by "the term gender identity is
20 controversial"?
21 A I would -- what I mean by that is that people use
22 that term in different ways for different
23 purposes. It's not uniform. Some actually
24 conflate sexual identity and gender identity and
25 use them interchangeably. Some are restricting

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1 that to one's perception of their gender
2 identity.
3 The whole concept of gender based upon
4 stereotypical behaviors that are assigned to
5 males versus females again is an area that is
6 imprecise. Many assumptions are made in those
7 stereotypical behaviors. And so one's
8 understanding of what that means even within the
9 various individuals that make that claim means
10 different things to different people.
11 Q So by controversial, did you mean inconsistent?
12 A Meaning that there is no accepted universal
13 definition of that term that can be used with
14 precision in carrying on conversations related to
15 this area.
16 Q And what are the -- what are the relevant
17 clinical communities?
18 A I'm a physician scientist, and I think that when
19 we talk about the role as opposed to sexual
20 identity, I think there are very clear
21 understanding of what we mean by sexual identity.
22 There are clear and obvious measurements of error
23 rate in making a determination of one's sexual
24 identity, and that is the domain that is relevant
25 to a pediatric endocrinologist in being able to

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1 care for various endocrinologic disorders.
2 Q Is sexual identity the same as biological sex?
3 A I would say they're -- they're very equivalent,
4 yes. We're talking about the biological nature
5 of that person as it relates to all of the
6 factors that I outlined in my declaration that
7 are in regards to reproductive orientation.
8 Q What do you mean by error rate for gender
9 identity?
10 A By that I mean that what is the -- when somebody
11 claims to have a particular gender identity, it
12 relates to how accurate that is, whether one is
13 going to -- for example, we know with sexual
14 identity that the error rate is very small, less
15 than 0.02 percent in being able to look at the
16 appearance of the external genitalia and be able
17 to recognize that sexual identity.
18 When one looks at gender identity, there are
19 many unknowns. For example, there are many that
20 claim those that present with sex-discordant
21 gender identity that later recognized that there
22 was another problem, the term that we often
23 describe as desistance, those error rates, if you
24 consider that an error rate, somebody -- I know
25 many that argue that if one has that experience,

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1 they never were truly, quote, transgender,
2 unquote, that that would involve an error in the
3 understanding of that perceived identity of that
4 individual. It is unknown because much of the
5 literature fails to recognize long-term
6 follow-ups. Many of the studies involve patients
7 that are lost to follow-up.
8 The survey methodology looking for that
9 remains incapable of ascertaining the true
10 denominator as far as number of individuals that
11 have that experience, so unlike sexual identity
12 that is precise and we know the very small chance
13 that one is going to arrive at an incorrect
14 conclusion of sexual identity, the error rate in
15 understanding the true -- the gender identity of
16 that individual is imprecise and, as I said,
17 unknown.
18 Q At the bottom of page 8, paragraph 14 -- at the
19 bottom of the paragraph, yes. So you write, "Sex
20 is not" -- excuse me. "Sex is not assigned at
21 birth. It is permanently determined by biology
22 at conception."
23 Do any aspects of sex change after
24 conception?
25 A Yes. So that the -- so that the -- the process

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1 of sexual differentiation which is initiated at
2 the union of the sperm and an egg will determine
3 which pathway one goes through. In that sexual
4 differentiation from male to female phenotypes,
5 there's a complex cascade of signaling processes
6 that are present directed by predominantly SRY,
7 which is the sex determining region of the Y
8 chromosome. There are other factors that are
9 involved in that differentiation process. There
10 are things that can occur to disrupt that normal
11 differentiation process, but as stated in this
12 sentence, it is an objective biological
13 phenomenon that is recognized, not assigned at
14 birth.
15 Q And except in the case of people with disorders
16 of sexual development in which there are sex
17 assignments made at birth; is that right?
18 A That is correct.
19 Q What makes someone an expert on the treatment of
20 gender dysphoria?
21 MR. RAMER: Objection to form.
22 A There are many who claim to be experts.
23 People -- it depends on one's training,
24 experience, knowledge of the scientific
25 literature. There are many different areas

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1 related to what we consider expertise, and that
2 can involve the scientists, that can involve the
3 clinician. I think it relates to the
4 understanding of the field, not only in gender
5 dysphoria, but any field of medicine, and to be
6 able to -- to be able to make a definitive -- or
7 to make solid assessments of -- of the -- of the
8 medical area that we're talking about.
9 Q And what makes you an expert in the field of
10 treatment for gender dysphoria?
11 A Well, as I have tried to convey in my
12 declaration, I was forced, necessitated myself
13 becoming familiar with the arguments that were
14 being made for the affirmative model in my role
15 as chief of our Division of Endocrinology and
16 Diabetes when the proposal was made to establish
17 a gender clinic. That has necessitated that I
18 have become familiar with the scientific
19 literature.
20 In my conversation with many of my
21 colleagues, my knowledge of the scientific
22 evidence is on par, if not far exceeding some of
23 the individuals that are providing this care in
24 the clinic, to be able to carry on a cogent
25 dialogue regarding the relative risks and

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1 benefits of that intervention.
2 So being aware of the model of care and the
3 relative risks and benefits, the scientific
4 studies in relation to that and being recognized
5 by my peers, being invited to give medical grand
6 rounds, being invited to deliver lectures, being
7 asked to -- to contribute to the scholarly
8 literature all are reflections of one who has
9 established a -- a degree of expertise in a
10 particular field.
11 Q Are there other people other than yourself that
12 you would consider experts on the treatment of
13 gender dysphoria?
14 A By that definition, yes.
15 Q And who are -- who are they?
16 A It's a very extensive list. I know many that
17 have a similar knowledge that are, for a variety
18 of reasons, based on other professional and
19 personal obligations are not, like myself,
20 willing to -- to speak and engage in the
21 conversation. The list is so extensive that
22 there is no possible way that I would be able to
23 give you that list.
24 Many of them have served as experts in the
25 legal cases that we're talking about here. Many

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1 have also contributed to the literature in this
2 area. They've been involved in some of the
3 systematic reviews that we mentioned earlier.
4 It's a very long list, and I wouldn't be able to
5 give justice to -- by naming just a few names
6 when there are so many that have had the same
7 experience as I have had in looking at the
8 literature and becoming familiar with it and
9 being able to make the same conclusions that I've
10 made in my declaration.
11 Q Do you know who Daniel Weiss is?
12 A I know Dr. Weiss, yes.
13 Q Did you know of him before this case?
14 A No.
15 Q Did you read Dr. Weiss's declaration and CV?
16 A No.
17 Q Do you consider Dr. Weiss to be an expert in the
18 treatment of gender dysphoria?
19 MR. RAMER: Objection to form.
20 A Again, I am not going to opine on things that
21 I -- I'm going to -- in my role, I'm focusing on
22 my area of expertise and not making any
23 conclusions about any -- anybody else that is
24 presenting as an expert. They would need to make
25 their own determination. I'm going to focus

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1 on -- on my knowledge, what I can contribute to
2 this court case.
3 Q But you didn't know of Dr. Weiss, who is an
4 endocrinologist, prior to this case?
5 MR. RAMER: Objection to form. Asked and
6 answered.
7 A Correct. I've not previously had conversations
8 with Dr. Weiss and don't have a basis to make any
9 determination.
10 Q Do you know who Diane Kenny is?
11 A Diane Kenny?
12 Q Yeah, K-E-N-N-Y. Do you know who Diane Kenny is?
13 A No.
14 Q Do you know who Christopher Kaliebe is?
15 A No.
16 Q Do you know who James Cantor is?
17 A Yes.
18 Q Were you familiar with James Cantor prior to this
19 case?
20 A Only from things that have been read and that he
21 has published on Internet articles.
22 MR. STRANGIO: I might be close to done
23 here, John, if I can just take five to chat with
24 my team and then we can come back.
25 MR. RAMER: Sounds good. Does that work for

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1 you, Doctor?
2 THE WITNESS: That'd be fine.
3 (At this time a recess was taken.)
4 Q Doctor, I do have just two more questions, but
5 that's it. We're getting close to the end.
6 So we were speaking just before the break
7 about experts in the treatment of adolescents
8 with gender dysphoria.
9 Are any of the clinicians at the St. Louis
10 Children's Hospital at the Transgender Care
11 Center experts in the treatment of adolescents
12 with gender dysphoria?
13 MR. RAMER: Objection to the form.
14 A You're asking me to speculate on what their
15 designation is. I would say that my colleagues
16 would themselves consider them to be experts in
17 the area.
18 In my conversations with my colleague who
19 runs the center, the endocrinologist, I think my
20 knowledge of the scientific literature is far
21 more extensive than his, but I think that they
22 would consider themselves to be experts.
23 Q Would you consider them to be experts?
24 MR. RAMER: Objection to the form. Asked
25 and answered.

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1 A So I think it depends on what you -- how you
2 define experts. And I've already provided my
3 definition of what is necessary to be an expert.
4 My colleague, Dr. Lewis, has delivered
5 presentations at Washington University that are
6 generally devoid of discussion of the level of
7 science that I generally speak about.
8 Q Does someone need to have your level of
9 understanding of the scientific literature in
10 order to be an expert in the treatment of
11 adolescents with gender dysphoria?
12 MR. RAMER: Objection to the form.
13 A Again, it depends on how one defines what an
14 expert is. There are different forms of
15 expertise, and -- and different ways that people
16 use to designate that.
17 Q Might Dr. Lewis, who runs the Transgender Care
18 Center at St. Louis Children's, be a clinical
19 expert in the treatment of adolescents with
20 gender dysphoria?
21 MR. RAMER: Objection to the form.
22 A It depends on how you define expertise. I have
23 more publications in the area than he does.
24 Q You're talking about publications in the area of
25 treatment of adolescents with gender dysphoria?

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1 A We've already gone over the papers that I have
2 published in this area, so, again, it depends on
3 how one defines expertise and, again, you know,
4 how one makes that assessment and whether one
5 feels that they are qualified to speak in this
6 area.
7 Q I was just referring to when you said "this
8 area," you're referring to the area of treatment
9 of adolescents with gender dysphoria?
10 A Yes.
11 Q And how would your declaration in this case be
12 different if this was concerning the provision of
13 care to adults?
14 MR. RAMER: Objection to form. Beyond the
15 scope.
16 A I would say that I would not be submitting a
17 declaration as a pediatric endocrinologist in
18 relation to adults because my area is -- is as a
19 pediatric endocrinologist, unless you were going
20 to include patients that extend into the early
21 20s, which I do have contact with.
22 Q And do you have the same reservations with
23 respect to treatment for adults that you have
24 with respect to treatment for adolescents with
25 gender dysphoria?

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1 MR. RAMER: Objection to the form. Beyond
2 the scope.
3 A Again, beyond what I'm going to be testifying in
4 this case. There is more evidence in the adult
5 literature than there are in the -- in the
6 pediatric world as far as long-term effects.
7 Some of them are different questions. There are
8 shared concerns. Much of what we are applying to
9 the care of adolescents is based upon long-term
10 understanding of effects in adults, and to that
11 respect, that will be shared in both -- both
12 domains, but there are certainly many other
13 aspects that are quite different. The use of
14 puberty blockades is very different. The effects
15 of puberty is very different. The changing
16 demographics of the patient population is very
17 different. So I would say that -- that they
18 are -- would require a different analysis. Some
19 of the information would overlap. Much of it
20 would be different.
21 Q When you talk about long-term effects, what --
22 what is a long-term effect? How long a period
23 would you need to study the effects?
24 A Well, I can point to the -- probably the longest
25 available studies that are available that -- that

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1 do not include some of the limitations,
2 methodologic limitations, for example, would
3 refer to the Dane study with the Swedish total
4 population cohort showing persistence of
5 psychological morbidity, elevated rates of
6 completed suicide after experiencing or being
7 engaged in medical affirmation, recognizing that
8 that study was not controlled, can't say anything
9 about the actual effect of the intervention, but
10 merely illustrates the fact that these patients
11 are continuing to suffer, quite in contrast to
12 the arguments that are made to the contrary.
13 There are adult data, for example, looking
14 at persistence of need for psychiatric care,
15 psychiatric medications that are looking
16 long-term from databases. There's a whole host
17 of literature that's out there. Again, some of
18 it will be relevant, some of it not so much in
19 addressing this question in the adolescent
20 population.
21 Q I'm just asking you what is long -- like what
22 would you consider long-term? One year, five
23 years, ten years?
24 A So if you look at the Wiepjes paper, the
25 long-term, you know, follow-up, it indicated that

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1 the average age to desistance was over ten years,
2 so I would say that if you're going to have the
3 outcome of, you know, whether one has the
4 experience of going through this transition only
5 to discover later that it didn't solve their
6 problems, one would at least need to follow it
7 out to that end point, again, extrapolating the
8 data that we have in adults to the pediatric
9 population.

10 Q So if you did have data that followed patients
11 for a period of time over ten years, would that
12 be a sufficient long-term study in your view?

13 MR. RAMER: Objection to the form.

14 A So you're asking about -- it depends on how the
15 study was done. I'm not -- just -- time would
16 not be the sole factor. There would be other
17 factors about assessing the reliability of the
18 methods that were used in the study, the tools
19 that were used in the measurement, so it would
20 certainly be one component.

21 And I do think that you can get even shorter
22 term data depending on the outcome that you're
23 measuring, but if we're going to make an
24 assessment about the error rate, as we discussed
25 previously, trying to make a prediction about

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1 those, we're starting to see a larger number of
2 people that are coming forward with the
3 experience of desistance that we had not
4 recognized previously. The question out there is
5 how many does that involve. Time of follow-up is
6 critical. The patients that are lost to
7 follow-up is critical in that assessment. The
8 nature of the study as far as how the patients
9 were recruited and the tools that were used to
10 assess the outcomes are necessary as well.

11 Q So it sounds like this is another example of more
12 research needed for longer periods of time; is
13 that right?

14 MR. RAMER: Objection to the form.

15 A So as I said previously, at present the
16 conclusion that the relative risks outweigh the
17 purported benefits is based upon the currently
18 available evidence. As a physician scientist,
19 there's a need to gather other relevant
20 information and do more clinical studies. And --
21 and that is something that anyone who is a
22 physician scientist would agree with.

23 MR. STRANGIO: Okay. I think -- waiting to
24 see one thing. Okay, I will go ahead and pass
25 the witness. Thank you, Dr. Hruz, for your time,

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1 unless I have any follow-up from whatever John
2 has.

3 MR. RAMER: No, I have no questions for the
4 witness.

5 MR. STRANGIO: All right. Well, Dr. Hruz,
6 good to see you. I imagine the court reporter
7 may have some spellings, but I could be wrong.

8 MR. RAMER: We'd like to review and sign as
9 well.

10 MR. STRANGIO: And, Dianne, I think we have
11 requested it for Monday.
12 (Deposition concluded at 1:41 p.m.)
13 AND FURTHER THE DEPONENT SAITH NOT.

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1 STATE OF INDIANA)
2) SS:
3 COUNTY OF MARION)
4 I, Dianne Lockhart, RMR, CRR, a Notary Public in
5 and for the County of Marion, State of Indiana at
6 large, do hereby certify that PAUL W. HRUZ, M.D.,
7 PH.D., the deponent herein, was by me first duly
8 sworn to tell the truth, the whole truth, and nothing
9 but the truth in the above-captioned cause.

10 That the foregoing deposition was taken on
11 behalf of the Plaintiffs via videoconference in
12 Manchester, St. Louis County, Missouri, on the 1st
13 day of June, 2023, pursuant to the Applicable Rules.

14 That said deposition was taken down in
15 stenograph notes and afterwards reduced to
16 typewriting under my direction, and that the
17 typewritten transcript is a true record of the
18 testimony given by said deponent; and thereafter
19 presented to said deponent for their signature.

20 That the parties were represented by their
21 aforementioned counsel.

22 I do further certify that I am a disinterested
23 person in this cause of action; that I am not a
24 relative or attorney of either party, or otherwise
25 interested in the event of this action, and am not in
the employ of the attorneys for either party.

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IN WITNESS WHEREOF, I have hereunto set my hand
and affixed my notarial seal this ____ day of
_____, 2023.

Dianne Lockhart

Dianne Lockhart, RMR, CRR
Notary Public

Commission Number NP0668781

My Commission Expires:
June 4, 2031

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(Originating Party)
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NOTICE OF DEPOSITION FILING
UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF INDIANA
INDIANAPOLIS DIVISION
CASE NO. 1:23-cv-00595-JPH-KMB

K.C., et al.,)
) Plaintiffs,)
))
-v-s-)
))
THE INDIVIDUAL MEMBERS OF THE)
MEDICAL LICENSING BOARD OF)
INDIANA, in their official)
capacities, et al.,)
) Defendants.)

In compliance with the Indiana Rules of
Procedure, Federal Rules of Civil Procedure and/or
the Rules of the Industrial Board, you are notified
that the signed original transcript of PAUL W. HRUZ,
M.D., PH.D., taken on the 1st day of June, 2023, has
been sealed and submitted to the originating party,
along with the attached Errata Sheet(s), if
applicable.

(Date received by Circle City Reporting)
CIRCLE CITY REPORTING
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Suite 1720
Indianapolis, IN 46204
(317) 635-7857

A	71:15;81:17;97:20; 160:13;161:12	154:4;158:5;159:5; 160:23	112:24;118:11; 119:23	71:2;72:2;17;73:3,10; 16;74:14,16;76:3; 79:19;82:10;83:10; 85:22;86:12;88:7; 89:8,19;91:6;92:6,17, 21;93:12;95:24;99:9, 24;100:10;101:8; 103:1;104:1;105:24; 106:10;109:17; 110:4,4;112:13; 118:23;121:3; 123:25;124:24; 127:6;129:25; 130:13;132:10,25; 134:7,9;135:21; 136:19;137:8,25; 142:23;144:12; 145:7,22,22,24; 147:16;148:4,11; 150:25;151:7,23; 152:6,6;157:7;161:5; 167:20;170:13; 171:2,3;172:3; 173:17;174:7
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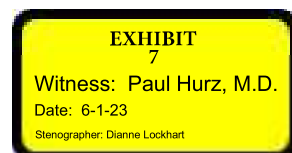
After His resurrection, Jesus met two disciples on the road to the village of a Emmaus. Following His conversation with them they said, "Did not our heart burn within us while He talked with us on the road, and while He opened the Scriptures to us?" Luke 24:32

Emmaus Road Press is committed to opening the Scriptures and publishing books that will exalt Christ and cause hearts to burn in devotion and praise to Him. The picture on the right is "The Road To Emmaus," 1877, Robert Zund, 1826-1909.



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OUR PURPOSE

Our culture finds itself in a moment in which the term “science and technology” has become fraught. Dreams of limitless progress now seem to be giving way to nightmares. Our talk of “tech” is split between visions of boundless transformation and dread that we will become manipulated, oppressed, obsolete, addicted, or simply miserable. “Science” seems to be falling from its lofty state, becoming mixed up, like so much else, in our political squabbles. We treat it as a referee who is unimpeachable when he favors my team, rigging the game when he favors yours.

The purpose of *The New Atlantis* is to offer clarity and guidance at a moment when we seem to be losing confidence in one of the pillars of modern civilization. It is our hope to help us all — as citizens, scientists, policymakers, and human beings — to deal more wisely and more creatively with both the burdens and the blessings of modern science and technology.

Yet if our moment is a difficult one, there is also something telling in our sense of shock at it — as if we were experiencing a sudden departure from the arc of history. And so we must recognize that it is the rule rather than the exception in human affairs that grandiose expectations will be frustrated and grand projects not turn out as their planners intended.

The ideal of science as an oracle in political disputes has placed a weight upon it that it cannot bear. The dream that scientific progress could, in effect, solve the human condition has warped our aspirations, making perennial problems seem like novel catastrophes. New technologies that promised disruption have delivered only too well.

Dystopian dread is the shadow of utopian dreams. The hope of *The New Atlantis* is to help steer away from both — and instead toward a culture in which science and technology work *for*, not *on*, human beings.

OUR AIM

A culture in which science and technology work for human beings is one that:

- Understands the core anxiety about tech as the threat of *dehumanization*.
- Fosters a richer discourse about science and technology, one that is not limited to categories like autonomy, privacy, rights, corporate misbehavior, and disparate impact, but that also addresses perennial yet pressing concerns about dignity, degradation, the obligations between generations, the nature of the good life, and meaning and purpose.
- Places wiser limits in both our values and our policies on dehumanizing technologies, research practices, and applications of science.
- Resists the temptation to use medicine and biotechnology to conquer human nature or to regard our bodies as raw material, and instead sees their purpose as caring for the sick while protecting the dignity of every person.
- Renews its understanding of science — viewing it not as a vehicle for putting humanity in its place, or for revealing what we cherish to be illusory, but rather as an expression of human curiosity, endeavor, and excellence.

- Moves beyond the misguided dreams of either making politics subservient to science or of ridding experts from politics once and for all, and instead creates new institutions, practices, and ways of thinking in which democratic deliberation and scientific expertise each inform, guide, and place sound limits upon the other.
- Revives confidence in its ability to create new technologies and policies that ameliorate suffering, increase prosperity, strengthen family and communal bonds, counter threats to and from the environment, and open new possibilities for understanding and exploring the universe.

OUR NAME

New Atlantis was the title Francis Bacon selected for his speculative story of a society living with the benefits and challenges of advanced science and technology. Bacon, a founder and champion of modern science, sought not only to highlight the potential of technology to improve human life, but also to foresee some of the social, moral, and political difficulties that confront a society shaped by the great scientific enterprise.

Published in 1627, his book offers no obvious answers; perhaps it seduces more than it warns. But the tale also hints at some of the dilemmas that arise with the ability to remake and reconfigure the natural world: governing science, so that it might flourish freely without destroying or dehumanizing us, and understanding the effect of technology on human life, human aspiration, and the human good.

To a great extent, we live in the world Bacon imagined, and now we must find a way to live well with both its burdens and its blessings. This very challenge, which now confronts our own society most forcefully, is the focus of this journal.

WHO WE ARE

We are not an academic journal but a public journal of ideas. We aim to provide an alternative to the models of experts and academics whose writing is aimed mainly at each other, and of short-form or “explainer” journalism that often fails to engage the deeper questions at stake.

Instead, we publish long-form essays, articles, and reports that — we hope — are written with insight, accessibility, literary virtuosity, and factual reliability for lay audiences and scholars alike. Our editors and authors are scientists, medical doctors, engineers, policy analysts, academics, writers, and scholars.

The New Atlantis is a nonpartisan publication. Indeed, the subjects addressed in our pages often cut across existing political lines, forcing liberals and conservatives, progressives and libertarians, to revisit their guiding principles.

We are published by a nonprofit organization that is supported wholly by private foundations, individual donors, and revenue earned from subscriptions and licensing. We receive no funding from business or government sources. (We have allowed exceptions to this policy by accepting federal funds under the coronavirus relief laws of 2020-21.)

OUR DESIGN

The whimsical line drawings used throughout our site derive from “New Atlantis,” an illustration of Francis Bacon’s story that first appeared in the 1964 book *The Scientist*, part of the Time-Life Books series. The artist is Lowell Hess, an illustrator for *Collier’s*, *Boys’ Life*, and many children’s books under the Golden Books series whose works are collected in *The Art of Lowell Hess* (2011). The image, used with the permission of Time-Life Books and the Hess estate, appears at the top of this page.

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Policy Perspective

Proper Care of Transgender and Gender Diverse Persons in the Setting of Proposed Discrimination: A Policy Perspective*

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*Co-sponsoring organization: Pediatric Endocrine Society.

Abbreviations: ACA, Affordable Care Act; HHS, Health and Human Services; LGBTQ, lesbian, gay, bisexual, transgender, queer; TGD, transgender and gender diverse

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Abstract

Transgender and gender diverse (TGD) individuals face significant barriers to accessing health care. Recent introductions of regulatory policies at state and federal levels raise concerns over the politicization of gender-affirming health care, the risks of further restricting access to quality care, and the potential criminalization of healthcare professionals who care for TGD patients. The Endocrine Society and the Pediatric Endocrine Society have published several news articles and comments in the last couple of years supporting safe and effective gender-affirming interventions as outlined in the 2017 Endocrine Society's Clinical Practice Guidelines. The Endocrine Society Position Statement on Transgender Health also acknowledges the rapid expansion in understanding the biological underpinning of gender identity and the need for increased funding to help close gaps in knowledge about the optimal care of TGD individuals. This Policy Perspective affirms these principles in the context of pending and future legislation attempting to discriminate

against TGD patients while also stressing the need for science and health care experts to inform health policies.

Key Words: transgender, legislation, policy, discrimination

Over this past year, there have been numerous state legislative and federal regulatory policies introduced regarding the care of transgender and gender diverse (TGD) individuals in the United States. These proposed policies appear to have been developed without the involvement of experienced medical providers and without the consideration of evidence-based standard of care clinical practice guidelines on the care for TGD individuals, including those published by the Endocrine Society [1, 2]. Not only do these policies ignore the science, but if enacted, they would restrict access to health care for TGD people, and in some cases, would criminalize their medical providers.

TGD individuals have a gender identity that is different from the sex recorded at birth. In 2016, an estimated 0.6% (or 1.4 million) adults reported that they were transgender or gender diverse in the United States. [3]. According to a 2017 survey of US high school students, almost 2% reported that they were transgender [4]. TGD individuals comprise a vulnerable group in our society that already faces significant barriers in accessing equitable health care despite the current protections that exist surrounding a person's gender identity [5-8].

At the federal level, the US Department of Health and Human Services (HHS) announced on June 12, 2020, that it had finalized revisions to Section 1557 of the Affordable Care Act (ACA), which would involve a rollback of health care nondiscrimination rules on the basis of sex, gender identity, and sex stereotyping [8]. These revisions would eliminate protections for TGD individuals who experience discrimination in health care settings, restricting access to gender-affirming care and to general medical care. The Endocrine Society opposed the proposed rule and submitted comments to the US Department of HHS urging it to withdraw it, stressing that removing these nondiscrimination protections would have made it easier for providers to deny care to TGD persons as well as discourage patients from seeking routine and gender-affirming care or reporting discrimination [9]. On August 17, 2020, the day before the revisions to Section 1557 of the ACA were to take effect, a federal judge temporarily blocked them pending future court proceedings. The decision was made following the US Supreme Court ruling on June 15, 2020, which found that lesbian, gay, bisexual, transgender, and queer (LGBTQ) individuals cannot be discriminated against in the workplace on the basis of sex [10, 11]. The ruling was made after consideration of 3 cases, including the case of *Harris*

v. Equal Employment Opportunity Commission in which the Endocrine Society provided scientific background and context regarding transgender health with a “friend of the court” brief [12]. In retrospect, it has been noted that the US Department of HHS announced its planned revisions to Section 1557 of the ACA just 3 days before the expected US Supreme Court ruling, and this timing raised concerns that deliberate attempts were made to remove the protections for LGBTQ individuals in advance of the anticipated ruling [11].

At the state level, proposed legislation with implications for discrimination of TGD individuals in health care settings first appeared and proliferated in the wake of a heavily publicized custody case of a transgender child in Texas in October 2019. Misinformation regarding the care of TGD youth spread, which instigated proposed legislation to prohibit medical interventions in these patients. This prompted the Endocrine Society and the Pediatric Endocrine Society to release statements affirming our support of the Endocrine Society's Clinical Practice Guidelines on the Endocrine Treatment for Gender-Dysphoric/Gender-Incongruent Persons [1, 13]. Unfortunately, since that time, more than 2 dozen bills have been introduced in 16 US states (Alabama, Colorado, Florida, Idaho, Illinois, Iowa, Kentucky, Mississippi, Missouri, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Utah, and West Virginia), many with the same or very similar titles, wording, and objectives [14]. Although most of these bills have failed to advance in state legislatures, a few remain under consideration. State legislators promoting these bills have spread erroneous and misleading information regarding TGD care of minors. For example, the following was presented as 1 of the 10 ballots of the 2020 Texas Republican Party primary election: “Texas should ban chemical castration, puberty blockers, cross-sex hormones and genital mutilation surgery on all minor children for transition purposes, given that Texas children as young as three (3) are being transitioned from their biological sex to the opposite sex.” Even though “chemical castration” and “genital mutilation” are not part of gender-affirming care for minors, such wording serves to alarm the general public, and 94.57% of the electors supported the measure [15]. This type of misinformation has led to an increase in threats to clinics and providers of TGD minors.

These state bills aim to make it unlawful to provide medical care to TGD minors, including the provision of

gonadotropin-releasing hormone agonist therapy for pubertal suppression and gender-affirming hormonal therapy. Pubertal suppression, which is fully reversible, is offered to adolescents who meet diagnostic and treatment criteria, and are requesting care, for gender dysphoria/gender incongruence after they exhibit physical changes of puberty (Tanner stages G2/B2) [1]. This intervention allows for expansion of the diagnostic phase and more time for adolescents to explore options and live in the experienced gender before making a decision to proceed with gender-affirming hormone therapy [1]. Gender-affirming hormone therapy is partially irreversible and is an option for adolescents who request treatment after a multidisciplinary team of medical and mental health professionals confirms the persistence of gender dysphoria/gender incongruence and sufficient mental capacity to give informed consent [1]. Gender-affirming hormone therapy allows for the induction of puberty and phenotypic changes that hopefully align more with one's gender identity [1].

Eliminating these aspects of health care will detrimentally affect TGD patients who face a disproportionately high rate of suicide, yet gender-affirming care is known to significantly improve mental health outcomes [1, 2, 4, 16-21]. Furthermore, the bills would criminalize health care professionals who provide this care with felony charges, revocation of their professional medical licenses, monetary fines, and imprisonment. If passed, the legislation would greatly affect members of the Endocrine Society and the Pediatric Endocrine Society who provide gender-affirming care, particularly those who provide care to minors following the Endocrine Society's Clinical Practice Guidelines for Gender-Dysphoric/Gender-Incongruent Persons and the World Professional Association for Transgender Health's Standards of Care for the Health of Transsexual, Transgender, and Gender-Nonconforming People [1, 2]. For these reasons, we emphasize the need to involve expert medical professionals or consideration of standard of care evidence-based clinical practice guidelines when developing legislation impacting the health care and access of TGD individuals. The Endocrine Society and the Pediatric Endocrine Society firmly believe that health care treatment should be evidence-based and doctor-patient determined without politicization that is not based on science.

The Endocrine Society and Pediatric Endocrine Society remain hopeful that pending and future legislation attempting to discriminate against TGD patients will not be enacted. Yet, we also recognize the long road ahead in truly attaining equitable health care for all people. We affirm the Endocrine Society Position Statement on Transgender Health, which includes the following: (1) there is a durable biological underpinning to gender identity that should be considered in policy determinations; (2) medical intervention for

transgender individuals (including both hormone therapy and medically indicated surgery) is effective, relatively safe (when appropriately monitored), and has been established as the standard of care, and federal and private insurers should cover such interventions as prescribed by a physician as well as the appropriate medical screenings that are recommended for all body tissues that a person may have; and (3) increased funding for national research programs is needed to close the gaps in knowledge regarding transgender medical care and should be made a priority [22].

In summary, our concern regarding the attempted politicization of the gender-affirming care of TGD individuals persists. At the same time, the Endocrine Society and the Pediatric Endocrine Society remain dedicated to providing necessary gender-affirming medical care to TGD individuals, to advocating for increased funding for research to close the gaps in knowledge regarding the medical care of TGD individuals, and to sharing important knowledge learned to inform policy. We remain steadfast in our belief that patient health management decisions should be evidence-based and doctor-patient determined, and health policy should be based in science with health care experts at the table as contributors.

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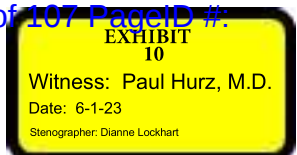
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Data Availability: Data sharing is not applicable to this article as no datasets were generated or analyzed during the current study.

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The National Catholic Bioethics Quarterly **Information for Authors**

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The National Catholic Bioethics Quarterly is the official journal of The National Catholic Bioethics Center, an organization dedicated to research and the analysis of moral issues arising in health care and the life sciences. The *NCBQ* seeks to foster intellectual inquiry on moral issues by publishing articles that address the ethical, philosophical, theological, and clinical questions raised by the rapid pace of modern medical and technological progress. Inspired by the harmony of faith and reason, the *NCBQ* unites faith in Christ to reasoned and rigorous reflection on the findings of the empirical and experimental sciences. While the *NCBQ* is committed to publishing material that is consonant with the magisterium of the Catholic Church, it remains open to other faiths and to secular viewpoints in the spirit of informed dialogue.

The journal publishes essays and articles on all topics in bioethics but is especially friendly toward the Aristotelian-Thomistic tradition and its great authors, recent and ancient. Submissions that show a familiarity with the Catholic medical-moral tradition and with previous discussions in the *NCBQ* are encouraged.

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Articles: generally full-length studies of 5,000 to 12,000 words (up to 15,000 words for exceptional submissions), which should be major contributions to the field

We do not publish any work advancing views that are clearly contrary to the established teachings of the Catholic Church.

Please be sure you understand what constitutes plagiarism before you submit your paper: plagiarism is “turning in someone else’s work as your own; copying words or ideas from someone else without giving credit; failing to put a quotation in quotation marks; giving incorrect information about the source of a quotation; changing words but copying the sentence structure of a source without giving credit; [or] copying so many words or ideas from a source that it makes up the majority of your work whether you give credit or not” (“What is Plagiarism?,” Plagiarism.org, November 20, 2012, <http://plagiarism.org/plagiarism-101/what-is-plagiarism>). Importantly, even when paraphrasing the source material, word choices or phrasing that are largely the same as the original are considered plagiarism. All submissions are tested for plagiarism, and plagiarized papers are rejected.

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Headings. Place headings at three or more appropriate places in your manuscript. The heading “Introduction” can almost always be deleted, and the word “Conclusion” should be changed to reflect the content of your final remarks.

Footnotes. Properly document all quotations and ideas that were originally proposed by others. Whenever possible, cite primary sources and articles published in peer-reviewed journals. Gray literature, in particular government data and reports, is appropriate as well. Unless unavoidable, refrain from citing magazines and non-peer-reviewed journals, such as *America* and *Public Discourse*. For example, rather than citing an article from one of these sources that comments on an issue, find the primary sources for the debate. Finally, avoid sources that are considered to be tabloids, such as the *New York Post*. To ensure that bioethical concerns and conclusions are grounded in fact, avoid hypothetical scenarios when providing examples. When feasible, cite case studies. Not all cases are documented in the academic literature. Consequently, references to news articles and even to personal experiences or those of your colleagues are acceptable if necessary. When citing studies, please use sources published within the past ten years to ensure that the *NCBQ* reflects the most current scientific knowledge. Of course, older data must be used in some situations, for example when citing a historically significant work or when no recent data are available. In these cases, please provide a brief note explaining to readers why the source was included. Insert footnotes so that they can be renumbered automatically by the word processing software; this means using References → Insert footnote or a similar command. Whenever possible, place citation numbers at the ends of sentences, not in the middle. If you cite several works in one place, combine them into a single footnote. Please provide specific page numbers on which cited information can be found in each source.

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Two authors

Edmund Pellegrino and David Thomasma, *The Virtues in Medical Practice* (New York: Oxford University Press, 1993), 31.

Short title:

Pellegrino and Thomasma, *Virtues in Medical Practice*, 31.

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Papadakis et al., *Current Medical Diagnosis*, 23.

More than three authors

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Can often be cited in the text.

Church document, Pauline edition

John Paul II, *Evangelium vitae* (March 25, 1995), (Boston: Daughters of St. Paul, 1955), n. 62.

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Short title as above.

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Short title:

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[If the print edition is cited, the page number replaces the URL.]

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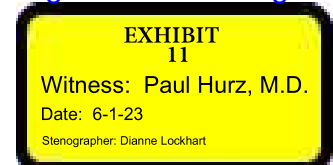
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5/10/23



Brief Statement on Transgenderism

The National Catholic Bioethics Center

Abstract. The claim that it is possible to change one's sex, or that sexual identity is fluid, contradicts scientific evidence, reason, the nature of the human person, and key tenets of the Catholic faith. A small number of persons claiming to be "transgender" mistakenly believe that their true self and sexual identity contradict the sex of their bodies. They frequently experience profound suffering due to intense psychological distress and due to the challenges of forming a healthy self-identity and basic human relationships, including friendships and marriage. Hormonal and surgical interventions, and other behaviors and practices that attempt to validate mistaken beliefs to relieve distress and suffering, are inappropriate responses to their condition. Persons claiming to be transgender must be accompanied on their difficult journey with true charity, and should be offered ethical, effective therapies based on sound anthropology and scientific evidence. The National Catholic Bioethics Center offers considerations to facilitate appropriate efforts to accompany and to help such persons. *National Catholic Bioethics Quarterly* 16.4 (Winter 2016): 599–603.

The notion of being able to change one's sex, most radically through surgical intervention, has increasingly become a part of public awareness and social discourse. The boldness of the gender ideology movement has now brought it to the forefront.

Resolutions and policies of medical associations and legislative and regulatory actions promote so-called gender affirmation and gender transitioning, even in pre-pubescent children, and mandate the compliance of schools, health care providers,

This essay is the result of an initial analysis by the ethicists of The National Catholic Bioethics Center, drafted in response to numerous requests from individual Catholics and Church leaders. As a statement signed by the ethicists of the Center, it represents the official position of the NCBC.

health care payers, social services, and others. Such regulations are coercive and based on a false understanding of human identity. Gender transitioning insists on affirming a false identity and, in many cases, mutilating the body in support of that falsehood.

Human Anthropology and Gender

Gender transitioning is the attempted exchange of one's unambiguous, clearly defined sexual identity as male or female for the other sex: a male attempting to alter himself to become female, or a female attempting to alter herself to become male. For the purposes of the present statement, it should be stressed that we are not addressing the complicated cases where various congenital disorders of sexual development result in uncertainty regarding a person's biological sex, for example, situations involving ambiguous genitalia. The person seeking to transition, as we are using the term, essentially believes that he or she is in the "wrong body": a male trapped in a female body or vice versa. The experience of anxiety or unhappiness associated with this conviction is referred to as gender dysphoria.

Gender transitioning, involving behavioral, hormonal, or surgical treatments, or a combination of these, is coming to be broadly accepted as a form of "therapy." The concept of gender transitioning, however, stands in radical opposition to a proper understanding of the nature of the human person. It presupposes that there is a "self" that is separate from the body, which happens to find itself in a body and which might therefore be in the wrong body. Yet the human person is a full body-soul unity, not a "ghost in the machine" or a spirit inhabiting the body. A particular person does not merely *have* a body: he or she *is* that body. In the words of Pope St. John Paul II, the "human body expresses the person."

In short, a person's sex is manifested by the body in accordance with how the person has been created, and so it cannot be in conflict with any truer or deeper sexual identity contrary to that bodily sex. This is a foundational anthropological point that no medical association or political ideology can overturn. The psychological experience of a disconnect with one's bodily sex is not to be minimized; it calls for appropriate psychotherapy, but it can in no way be reflective of an "incorrect" sex.

Given this understanding of what it means to be a human person, a body-soul unity whose innate sexual identity is reflected in the person's biology, it should be clear that no surgical, hormonal, or other intervention directed toward the body is capable of altering that innate sexual identity. Taking up or engaging in behavioral changes, including mannerisms, social cues, clothing, or modes of speaking that social mores ascribe to the opposite sex, does not alter the innate sexual identity of the embodied spirit, which is the human person. Hormonal interventions to block the body's sex-specific hormones or provide the sex-specific hormones of the opposite sex likewise alter nothing of a person's innate sexual identity. The use of puberty-blocking hormones in children with gender dysphoria is particularly dangerous, since this intervention radically disrupts the normal sequence of physical and psychological development that occurs during adolescence. One cannot simply "reverse" what has been done if the individual should change his or her mind.

So-called sex reassignment surgeries of any kind, designed to give the body an appearance with more of the culturally expected qualities of the opposite sex, also cannot modify the true sexual identity of the person, who was created male or female. Attempts at gender transitioning can, in fact, have disastrous effects in the life of a person who continues to struggle to better understand and accept his or her own true value and full identity. Studies show that the surgical interventions do not ultimately resolve feelings of anxiety and dysphoria and appear to lead to a significant increase in attempted or completed suicides.¹

Ethical Implications

The anthropological reality—that a person’s innate sexual identity cannot be changed—has moral consequences. Human persons act against their own good when they directly intend what is contrary to their own nature, purpose, and identity and thereby impair their flourishing. An act that is incapable of being ordered to the good of the person will not bring about individual flourishing: under no circumstances can it be consonant with the person’s genuine fulfillment. Directly intending to transition one’s given bodily sex into a “new” one (even though this may be perceived as the “real” and “true” one) means intending to alter what is unalterable, to establish a false identity in place of one’s true identity, and so to deny and contradict one’s own authentic human existence as a male or female body–soul unity. Such an action cannot be consonant with the good of the whole person. While many circumstances and influences may significantly mitigate personal culpability, gender transitioning raises significant moral concerns and always involves actions that are objectively directed against one’s own good.²

The fact that gender transitioning via behavioral, hormonal, or surgical interventions does not ultimately contribute to human flourishing has various moral repercussions in the practical order. For example, the following kinds of acts are harmful to the good of the person and may never be legitimately carried out, approved, or promoted: sex reassignment surgeries of any kind, which amount to nontherapeutic mutilations; the administration of cross-sex hormones as a means of gender transitioning in themselves, or in preparation for sex reassignment surgery; the administration of puberty-blocking hormones to children as a means of transitioning because of gender dysphoria or other sexual identity issues; and the adoption of behaviors, clothing, mannerisms, names, or pronouns typical of the opposite sex

1. Lawrence S. Mayer and Paul McHugh, “Sexuality and Gender: Findings from the Biological, Psychological, and Social Sciences,” *New Atlantis* 50.3 (Fall 2016): 67.

2. Gender “transitioning,” as used here, excludes interventions aimed at correcting congenital disorders of sexual development or reinforcing the best understood biological sex of a person with ambiguous genitalia or other ambiguous sex characteristics or behaviors. These may be and often are morally licit. The term also excludes any actions by which a person simulates characteristics of the opposite sex but without the intention of “becoming” that sex, such as cross-dressing, acting, imitating, or otherwise impersonating the opposite sex while still understanding and accepting one’s actual innate sexual identity.

with claims to be (and therefore demands to be treated as) a person of the opposite sex. Obviously, the most grave of these actions is mutilating surgery.

Catholic Health Care

In light of the scientific evidence showing that “transitioning” has no demonstrated long-term therapeutic benefit, and in light of Catholic teaching about the nature of the human person, no Catholic health care organization should establish policies that positively affirm the choice of any behavioral, hormonal, or surgical gender transitioning of patients, personnel, or other persons served by the organization. In addition, no Catholic health care organization should require its personnel to carry out, promote, refer for, or otherwise cooperate formally in procedures involved in gender transitioning, especially surgical or hormonal interventions; require the use of pronouns or sex-specific identifiers that are explicitly contrary to a person’s biological sex; or otherwise require the affirmation of a false sexual identity for any persons who are or who are planning on transitioning.

The challenge of addressing this new phenomenon of transgenderism extends, both in charity and in justice, to the rest of the Church’s pastoral ministries. Clearly, promoting the deceptive view that mutilation is a treatment for gender identity disorder is an injustice to the individuals involved and creates scandal for the larger community in the technical sense of leading others to sin. A greater challenge for agencies sponsored by the Church is to address the holistic needs of transgender persons who are seeking, not direct support for sex reassignment, but pastoral care, other services, and full participation in the life of the Church.

Catholic Educational Institutions

Educational ministries of the Church are under increasing external pressure to treat students consistent with their self-selected gender identity, in education records, forms of speech (use of pronouns and names consistent with the self-selected gender), participation in school activities and sports, and access to bathrooms and locker rooms.

Many schools are parish sponsored, and the pastor is “to have particular care for the Catholic education of children and youth. He is to make every effort, with the collaboration of the Christian faithful, so that the message of the gospel comes also to those who have ceased the practice of their religion or do not profess the true faith.”³ All religious education is subject to the authority of the Church. Clearly, cooperating in the “transitioning” of youth is inconsistent with these obligations.

The moral issue for Catholic schools is that they cannot participate in or promote the denial, or perceived denial, of the biological sex with which a child has been endowed by the Creator. Altering the name on school records, using “he” for a student born female or “she” for a student born male, and permitting a student to wear the uniform of the opposite sex do not truly serve the good of the student and his or her flourishing. Privacy needs can be met without allowing students access to the bathrooms or locker rooms reserved to those of the opposite sex.

3. Code of Canon Law, can. 528 § 1, in *Code of Canon Law: Latin–English Edition* (Washington, DC: Canon Law Society of America, 1999).

Employment policies of a Catholic educational institution should also exemplify the mission of a ministry of the Catholic Church. Its teachers are to be outstanding in correct doctrine and integrity of life.⁴ There is a special obligation on those responsible for religious instruction and on the diocesan bishop for oversight.⁵ Catholic laity assist in carrying out the ministries of the Church, but they are to “live according to this doctrine, announce it themselves, defend it if necessary, and take their part in exercising the apostolate.”⁶

Finally, it is necessary to define the roles and obligations of employees so as to exemplify and foster the mission of the ministry and to challenge violations of the religious liberty of the sponsors when these role definitions are not respected. No Catholic entity should submit to an immoral government mandate.⁷

The Need for Accompaniment

It is clear that those with gender dysphoria suffer greatly and must be treated with great compassion and sympathy. However, the attempt must be made to dissuade them from actions that ultimately will not contribute to their individual flourishing and may cause irreversible harm. We must always be with them in their difficulties and help them make truly therapeutic choices. Even when they have engaged in actions that have done irremediable harm, we must continue to accompany them and show them the love and compassion of Christ.

THE ETHICISTS OF THE NATIONAL CATHOLIC BIOETHICS CENTER

4. Can. 803 §2.

5. Can. 804 §2.

6. Can. 229 §1.

7. Similar issues exist for Catholic higher education, which should exercise every right of refusal under state and federal Religious Freedom Restoration Acts, as well as the exemption from Title IX of the Education Amendments of 1972. Institutions sponsored by religious organizations are exempt from sex discrimination provisions if their application would be inconsistent with the religious tenets of the organization: 20 USC § 1681(a)(3).

The Use of Cross-Sex Steroids in the Treatment of Gender Dysphoria

Paul W. Hruz, MD

Abstract. Current clinical guidelines for the treatment of individuals who experience gender dysphoria include the administration of testosterone to women who desire to appear as men and estrogen to men who desire to appear as women. Despite the rapid and widespread adoption of this practice, strikingly little scientific evidence supports this treatment approach as a safe and effective medical intervention to prevent associated depression and suicide. Although low-quality, short-term studies have demonstrated a reduction of dysphoria, emerging evidence reveals significant bodily harm from this practice and a lack of long-term benefit in preventing depression and suicide. From an ethical perspective, this practice distorts a proper view of human nature and violates bodily integrity by directly inducing sterility. The use of exogenous cross-sex hormones reinforces rather than alleviates underlying psychiatric dysfunction while significantly increasing the risk of other medical morbidities. Despite the valid goal of alleviating suffering, this practice cannot be justified by the use of the principles of totality or double effect. *National Catholic Bioethics Quarterly* 17.4 (Winter 2017): 661–671.

In a culture that increasingly asserts that truth is relative, the world appears to be in the midst of a “gender revolution.”¹ This includes a major ideological shift in attitudes toward what it even means to be a man or a woman. In contrast to long-standing knowledge and acceptance of sexual dimorphism—that is, the presence of only two

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1. Katie Couric, “Gender Revolution: A Journey with Katie Couric,” *National Geographic*, <http://channel.nationalgeographic.com/>.

sexes—defined in relation to the biological process of reproduction, attempts are now being made to present sexuality along a continuum of forms.² In stark contrast to Pope St. John Paul II’s teaching on the theology of the body, which illuminates a teleological complementarity between male and female forms and an inseparable unity of body, mind, and soul, it is now openly argued that the mind alone can and in some circumstances should determine, or at least influence, reality in medical practice.³ The dualistic rejection of an intrinsic connection between mind and body and the attempt to redefine fundamental aspects of human biology have given birth to a host of societal problems of unprecedented complexity. Discussions of gender identity are among the most contentious. These include heated public debates and lawsuits related to government hiring, bathroom access rights, and proper pronoun usage.⁴

In this context, the recognition, acceptance, and encouragement of individuals who experience discordance between their gender identity and biological sex have grown at an astounding rate among physicians and in society in general.⁵ It is unknown whether this increased awareness has contributed to the concomitant increase in the reported prevalence of transgender people, with some recent estimates as high as 0.4 percent of the US population.⁶ The medical profession, in possessing a technical ability to chemically and surgically manipulate the appearance of the human body, has been drawn into the ideological battlefield by offering a variety of interventions aimed at alleviating the significant distress that many transgender patients experience as a result of the incongruity between their minds and bodies. The practice of administering cross-sex hormones—that is, testosterone to women who identify as men and estrogen to men who identify as women—as a treatment for gender dysphoria is widely endorsed by several medical societies, including the American Psychiatric Association, the American Academy of Pediatrics, and the Endocrine Society.⁷

2. Helen Lewis, “The Battle over Gender: What Makes You a Man or a Woman, Anyway?,” *New Statesman*, September 13, 2013, <https://www.newstatesman.com/>; Claire Ainsworth, “Sex Redefined,” *Nature* 518.7539 (February 19, 2015): 288–291; and Amanda Montañez, “Beyond XX and XY,” *Scientific American* 317.3 (September 2017): 50–51, doi: 10.1038/scientificamerican0917-50.

3. Hugh Marshall McHugh and Simon Thomas Walker, “‘Personal Knowledge’ in Medicine and the Epistemic Shortcomings of Scientism,” *Journal of Bioethical Inquiry* 12.4 (December 2015): 577–585, doi: 10.1007/s11673-015-9661-5.

4. “Recent EEOC Litigation regarding Title VII and LGBT-Related Discrimination,” fact sheet, US Equal Employment Opportunity Commission, updated July 8, 2016, <https://www.eeoc.gov/>.

5. Jack L. Turban and Diane Ehrensaft, “Gender Identity in Youth: Treatment Paradigms and Controversies,” *Journal of Child Psychology and Psychiatry*, e-pub October 26, 2017, doi: 10.1111/jcpp.12833.

6. Esther L. Meerwijk and Jae M. Sevelius, “Transgender Population Size in the United States: A Meta-Regression of Population-Based Probability Samples,” *American Journal of Public Health* 107.2 (February 2017): 216, doi: 10.2105/AJPH.2016.303578a.

7. William Byne et al., “Report of the American Psychiatric Association Task Force on Treatment of Gender Identity Disorder,” *Archives of Sexual Behavior* 41.4 (August 2012): 759–796, doi: 10.1007/s10508-012-9975-x; American Academy of Pediatrics, “Office-Based

Regardless of one's religious, political, or ideological beliefs, it is easy to see that many transgender individuals experience real suffering, as evidenced by high rates of depression, anxiety, and substance abuse among them.⁸ By some estimates, half of all patients with gender dysphoria have considered suicide, and nearly a third have attempted to act on these thoughts.⁹ Transgender individuals have long endured various forms of prejudice, misunderstanding, mistreatment, and marginalization.¹⁰ Without question, these people need help. Catholic physicians and health care systems thus have a duty to serve this extremely vulnerable population.¹¹ The central questions are whether the currently offered intervention is truly beneficial and whether the potential and known harms of cross-sex hormone administration are justified. Careful consideration and proper application of the principles of totality and double effect clearly demonstrate that, despite the rapid and widespread expansion of cross-sex steroid use in patients with gender dysphoria, this practice violates fundamental principles of biomedical ethics and cannot be endorsed as a means to alleviate suffering in affected patients.

Gender ideology

Although knowledge of people who believe they were “born into the wrong body” has existed for decades,¹² until recently, this condition was generally recognized as a psychological disorder. This is reflected in the listing of “gender identity disorder” in the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* used by psychiatrists to classify psychological disease.¹³ Accordingly, understanding and correcting underlying psychosocial disturbances were the primary

Care for Lesbian, Gay, Bisexual, Transgender, and Questioning Youth,” *Pediatrics* 132.1 (July 2013): 198–203, doi: 10.1542/peds.2013-1282; and Wylie C. Hembree et al., “Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline,” *Journal of Clinical Endocrinology and Metabolism* 102.11 (November 2017): 3869–3903, doi: 10.1210/jc.2017-01658.

8. Sari L. Reisner et al., “Mental Health of Transgender Youth in Care at an Adolescent Urban Community Health Center: A Matched Retrospective Cohort Study,” *Journal of Adolescent Health* 56.3 (March 2015): 274–279, doi: 10.1016/j.jadohealth.2014.10.264.

9. Noah Adams, Maaya Hitomi, and Cherie Moody, “Varied Reports of Adult Transgender Suicidality: Synthesizing and Describing the Peer-Reviewed and Gray Literature,” *Transgender Health* 2.1 (April 2017): 60–75, doi: 10.1089/trgh.2016.0036.

10. Jaclyn M. White Hughto, Sari L. Reisner, and John E. Pachankis, “Transgender Stigma and Health: A Critical Review of Stigma Determinants, Mechanisms, and Interventions,” *Social Science and Medicine* 147 (December 2015): 222–231, doi: 10.1016/j.socscimed.2015.11.010.

11. US Conference of Catholic Bishops, *Ethical and Religious Directives for Catholic Health Care Services*, 5th ed. (Washington, DC: USCCB, 2009), dir. 3.

12. Jordan D. Frey et al., “A Historical Review of Gender-Affirming Medicine: Focus on Genital Reconstructive Surgery,” *Journal of Sexual Medicine* 14.8 (August 2017): 991–1002, doi: 10.1016/j.jsxm.2017.06.007.

13. American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. text revision (Washington, DC: American Psychiatric Publishing, 2000).

goals of treatment. With the publication of the fifth edition of this manual (*DSM-5*) in 2013, the diagnosis of “gender identity disorder” transitioned to “gender dysphoria,” with the assertion that gender–sex discordance is a normal manifestation of human diversity.¹⁴ Treatment aims accordingly shifted to the patient’s level of “dis-ease,” or negative feelings, about the appearance of his or her body. Turning the understanding of the relationship between wellness and disease on its head, the mind is now considered healthy and the body diseased. In this light, the simplest solution to the problem is to alter the body to conform to mental belief.

Considering the purported merits of reordering health and disease with respect to human sexuality, there is a notable paucity of objective scientific evidence to support the diagnosis change that occurred in *DSM-5*.¹⁵ Ideology reflecting cultural shifts in sexual mores, not science, was the primary influence on this major diagnostic revision.¹⁶ Even the most vocal advocates of the current treatment paradigm readily acknowledge that the etiology of gender discordance remains largely unknown.¹⁷ According to the incomplete and largely methodologically flawed gender-science literature, the development of gender dysphoria appears to be multifactorial, with genetic, hormonal, and environmental mediators.¹⁸ Consequently, it is difficult to assert from a purely empirical perspective that a single approach centered on cross-sex steroid administration is the best means to alleviate human suffering from gender dysphoria.

Sex Steroids in Normal Human Physiology

Assessment of the ethics of cross-sex steroid administration to individuals with gender dysphoria requires an understanding of the nature and biological function of these hormones. Steroid hormones comprise a family of structurally related compounds with a common cholesterol backbone. These hormones are produced in male and female gonads and in the adrenal glands. Upon synthesis and secretion, these compounds circulate in the bloodstream and enter cells, where they bind to specific receptors that carry the hormones to the cell nucleus. There, the hormone–receptor complex binds to DNA at multiple targeted locations to turn on and off specific genes

14. American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders*, 5th ed. (Arlington, VA: American Psychiatric Association, 2013).

15. Jack Drescher, Peggy T. Cohen-Kettenis, and Geoffrey M. Reed, “Gender Incongruence of Childhood in the ICD-11: Controversies, Proposal, and Rationale,” *Lancet* 3.3 (March 2016): 297–304, doi: 10.1016/S2215-0366(15)00586-6.

16. Titia F. Beek, Peggy T. Cohen-Kettenis, and Baudewijntje P. C. Kreukels, “Gender Incongruence–Gender Dysphoria and Its Classification History,” *International Review of Psychiatry* 28.1 (2016): 5–12, doi: 10.3109/09540261.2015.1091293.

17. Daniel Trotta, “Born This Way? Researchers Explore the Science of Gender Identity,” *Reuters*, August 3, 2017, <https://www.reuters.com/>.

18. Gunter Heylens et al., “Gender Identity Disorder in Twins: A Review of the Case Report Literature,” *Journal of Sexual Medicine* 9.3 (March 2013): 751–757, doi: 10.1111/j.1743-6109.2011.02567.x; and D. F. Swaab, “Sexual Differentiation of the Human Brain: Relevance for Gender Identity, Transsexualism and Sexual Orientation,” *Gynecological Endocrinology* 19.6 (2004): 301–312, doi: 10.1080/09513590400018231.

that influence cell function.¹⁹ Thus, the effect of altering sex-hormone levels, through either disease or artificial manipulation, can have pleiotropic effects throughout the body.

The steroids that are primarily responsible for sexual differentiation and function are testosterone, estrogen, and progesterone. However, several additional steroids, such as androstenedione and dehydroepiandrosterone (DHEA), also activate the androgen receptor. Men and women make both estrogen and testosterone, but at markedly different levels, which vary throughout the life span of an individual.²⁰ The control of sex-hormone levels occurs primarily in the brain via the highly regulated production of luteinizing hormone and follicle stimulating hormone in the pituitary gland. A notable effect of exogenous steroid administration is the disruption of LH and FSH secretion. This is the mechanism of contraceptive agents that are composed of synthetic sex steroids.²¹ Thus, it is not possible to separate the effects of sex-hormone administration on secondary sex characteristics, such as facial hair and breast development, from the function of the gonads and other tissues that respond to these steroids.

Biological Sex and Anthropology

Before exploring the medical aspects of cross-sex hormone administration, consideration of the basic biology of human sexuality exposes a violent distortion of fundamental anthropological principles in the new gender mentality. Reproduction is the primary purpose of sex, not just in humans but also across the entire animal kingdom.²² It is objectively irrational to accommodate contrary thinking by rejecting a male or female body that is fully competent with respect to its innate reproductive purpose. Cross-sex hormones, by their very nature, render an individual incapable of fulfilling the intrinsic biological role of the human body as male or female.²³ Although potentially reversible after short-term administration, the effects of cross-sex steroids on fertility are expected to be permanent when treatment is started in children.²⁴ The readily accepted view that reproductive capacity can be dissociated

19. Mitchell A. Lazar, “Mechanism of Action of Hormones That Act as Nuclear Receptors,” in *Williams Textbook of Endocrinology*, 10th ed., ed. P. Reed Larsen et al. (Philadelphia: Saunders, 2002), 35–44.

20. Melvin M. Grumbach and Dennis M. Styne, “Puberty: Ontogeny, Neuroendocrinology, Physiology, and Disorders,” in Larsen et al., *Williams Textbook of Endocrinology*, 1115–1286.

21. Roberto Rivera, Irene Yacobson, and David Grimes, “The Mechanism of Action of Hormonal Contraceptives and Intrauterine Contraceptive Devices,” *American Journal of Obstetrics and Gynecology* 181.5 (November 1999): 1263–1269, doi: 10.1016/S0002-9378(99)70120-1.

22. Holger Breithaupt, “The Science of Sex,” *EMBO Reports* 13.5 (May 2012): 394, doi: 10.1038/embor.2012.45.

23. Hembree et al., “Endocrine Treatment,” 3893. Advocates of the new medical treatment paradigm readily recognize this direct effect of cross-sex hormones and specifically counsel patients on the expected “complication” of induced sterility.

24. T.D. Pache et al., “Ovarian Morphology in Long-Term Androgen-Treated Female to Male Transsexuals: A Human Model for the Study of Polycystic Ovarian Syndrome?,”

from what it means to be male and female, which has grown from the seeds of “biological mutiny” that began with the acceptance of contraception as a solution to difficult social circumstances,²⁵ must be held to close scrutiny in assessing the morality of cross-sex steroid use.

Medical Risks Associated with Cross-Sex Steroid Use

With respect to the physiological effects of altering sex-steroid levels, it is important to recognize the numerous genetic and epigenetic differences between men and women, not just in the gonads or other reproductive organs but also in every cell in the body.²⁶ These differences direct unique cellular programs of gene expression, often leading to markedly different phenotypes between the sexes.²⁷ Recognition of these differences underlies the requirement by the National Institutes of Health that any federally sponsored research must include both male and female subjects unless otherwise justified, so that valid conclusions may be drawn from preclinical studies.²⁸ Thus, giving testosterone to a woman is not the same as giving the same hormone to a man. Similarly, giving estrogen to a man is not the same as giving the same hormone to a woman. There is ample evidence of the adverse effects of having elevated levels of sex steroids that normally predominate in members of the opposite sex. For example, women with elevated androgens—testosterone and androstenedione—due to congenital adrenal hyperplasia or polycystic ovarian disease have a significantly higher incidence of insulin resistance, dyslipidemia, and cardiovascular disease.²⁹ As the practice of giving cross-sex hormones is relatively new, there

Histopathology 19.5 (November 1991): 451, doi: 10.1111/j.1365-2559.1991.tb00235.x; Cornelia Schulze, “Response of the Human Testis to Long-Term Estrogen Treatment: Morphology of Sertoli Cells, Leydig Cells and Spermatogonial Stem Cells,” *Cell and Tissue Research* 251.1 (January 1988): 37, doi: 10.1007/BF00215444; and Renata Walczak-Jędrzejowska et al., “Estradiol and Testosterone Inhibit Rat Seminiferous Tubule Development in a Hormone-Specific Way,” *Reproductive Biology* 13.3 (September 2013): 243–250, doi: 10.1016/j.repbio.2013.07.005.

25. Lambeth Conference, 1930 Resolutions, para. 15, August 17, 1930, Lambeth Conference Resolution Archive, <http://www.anglican communion.org/>.

26. Sonja Grath and John Parsch, “Sex-Biased Gene Expression,” *Annual Review of Genetics* 50 (November 2016): 29–44, doi: 10.1146/annurev-genet-120215-035429. The term “epigenetic” refers to heritable changes in gene function, such as histone acetylation and DNA methylation, that do not involve changes in DNA sequence. See Cathérine Dupont, D. Randall Armant, and Carol A. Brenner, “Epigenetics: Definition, Mechanisms and Perspective,” *Seminars in Reproductive Medicine* 27.5 (September 2009): 351–357, doi: 10.1055/s-0029-1237423.

27. Nichole Rigby and Rob J. Kulathinal, “Genetic Architecture of Sexual Dimorphism in Humans,” *Journal of Cellular Physiology* 230.10 (October 2015): 2304–2310, doi: 10.1002/jcp.24979.

28. Janine A. Clayton and Francis S. Collins, “NIH to Balance Sex in Cell and Animal Studies,” *Nature* 509.7500 (May 14, 2014): 282–283.

29. Christiaan F. Mooij et al., “Cardiovascular and Metabolic Risk in Pediatric Patients with Congenital Adrenal Hyperplasia Due to 21 Hydroxylase Deficiency,” *Journal of Pediatric*

are few long-term, controlled safety studies in the transgender population.³⁰ The available data, however, do reveal several dangerous effects of cross-sex hormones in these individuals. In addition to sterility, known risks include stroke, diabetes, osteoporosis, hyperprolactinemia, disfiguring acne, and hypertension.³¹ There are also potential risks of breast, ovarian, and prostate cancer.³² Consequently, existing treatment guidelines for patients with gender dysphoria include recommendations to counsel all patients on these risks prior to initiating hormonal interventions and to conduct regular screening during treatment.³³

Principle of Totality

Many medical practitioners, recognizing the harm done to the body by destroying reproductive capacity, still maintain that cross-sex hormone treatment is justified

Endocrinology and Metabolism 30.9 (August 28, 2017): 957–966, doi: 10.1515/jpem-2017-0068; and Panagiotis Anagnostis, Basil C. Tarlatzis, and Robert P. Kauffman, “Polycystic Ovarian Syndrome (PCOS): Long-Term Metabolic Consequences,” *Metabolism*, e-pub October 10, 2017, doi: 10.1016/j.metabol.2017.09.016.

30. M. J. H. J. Dekker et al., “A European Network for the Investigation of Gender Incongruence: Endocrine Part,” *Journal of Sexual Development* 13.6 (June 2016): 994–999, doi: 10.1016/j.jsxm.2016.03.371.

31. Anne Laure Bourgeois et al., “Risk of Hormonotherapy in Transgender People: Literature Review and Data from the French Database of Pharmacovigilance,” *Annals of Endocrinology (Paris)* 77.1 (February 2016): 14–21, doi: 10.1016/j.ando.2015.12.001; Katrien Wierckx et al., “Long-Term Evaluation of Cross-Sex Hormone Treatment in Transsexual Persons,” *Journal of Sexual Medicine* 9.10 (October 2012): 2641–2651, doi: 10.1111/j.1743-6109.2012.02876.x; Katrien Wierckx et al., “Prevalence of Cardiovascular Disease and Cancer during Cross-Sex Hormone Therapy in a Large Cohort of Trans Persons: A Case–Control Study,” *European Journal of Endocrinology* 169.4 (October 2013): 471–478, doi: 10.1530/EJE-13-0493; Lucia Turrion-Merino et al., “Severe Acne in Female-to-Male Transgender Patients,” *JAMA Dermatology* 151.11 (November 2015): 1260–1261, doi: 10.1001/jamadermatol.2015.0761; Mohamed B. Elamin et al., “Effect of Sex Steroid Use on Cardiovascular Risk in Transsexual Individuals: A Systematic Review and Meta-analyses,” *Clinical Endocrinology* 72.1 (January 2010): 1–10, doi: 10.1111/j.1365-2265.2009.03632.x; Carl G. Streed Jr. et al., “Cardiovascular Disease among Transgender Adults Receiving Hormone Therapy: A Narrative Review,” *Annals of Internal Medicine* 167.4 (August 15, 2017): 256–267, doi: 10.7326/M17-0577; and Spyridoula Maraka et al., “Sex Steroids and Cardiovascular Outcomes in Transgender Individuals: A Systematic Review and Meta-Analysis,” *Journal of Clinical Endocrinology and Metabolism* 102.11 (November 1, 2017): 3914–3923, doi: 10.1210/jc.2017-01643.

32. L. Gooren et al., “Five New Cases of Breast Cancer in Transsexual Persons,” *Andrologia* 47.10 (December 2015): 1202–1205, doi: 10.1111/and.12399; D. S. Dizon et al., “Ovarian Cancer Associated with Testosterone Supplementation in a Female-to-Male Transsexual Patient,” *Gynecologic and Obstetric Investigation* 62.4 (November 2006): 226–228, doi: 10.1159/000094097; and Asma Sharif et al., “The Development of Prostate Adenocarcinoma in a Transgender Male to Female Patient: Could Estrogen Therapy Have Played a Role?,” *Prostate* 77.8 (June 2017): 824–828, doi: 10.1002/pros.23322.

33. Hembree et al., “Endocrine Treatment,” 3871, 3886.

by the good that it achieves in preventing suicide.³⁴ In other words, the removal or alteration of normally formed and functioning primary and secondary sex organs is a necessary means to prevent loss of life. This moral argument appeals to the ethical principle of totality, which asserts that the individual parts of the body exist and function for the good of the whole body. Being subservient to the whole, parts of the body can be justifiably removed if their existence threatens the whole of the body.³⁵ For the principle of totality to be valid, however, alternative, less invasive interventions cannot be possible, and the action performed must have a reasonable hope of achieving the intended good effect, which in this case is suicide prevention. Yet the existing scientific evidence fails to establish that the administration of cross-sex hormones satisfies either of these conditions.

The standards of care published by the World Professional Association for Transgender Health summarily dismisses efforts to help individuals with gender dysphoria explore the psychological basis for gender discordance with the intent of facilitating the reintegration of gender identity with biological sex. The WPATH directives specifically assert that “treatment aimed at trying to change a person’s gender identity and expression to become more congruent with sex assigned at birth has been attempted in the past without success, particularly in the long term. Such treatment is no longer considered ethical.”³⁶ Reflecting either an ideological bias or lack of scientific rigor, studies cited as supporting evidence contain numerous methodologic limitations—for example, case studies and lack of experimental controls³⁷—and include data showing that many patients did successfully realign gender identity with sex following psychological intervention.³⁸ Furthermore, the work of Kenneth Zucker and others demonstrates that many children who underwent psychotherapy

34. Brendan S. Abel, “Hormone Treatment of Children and Adolescents with Gender Dysphoria: An Ethical Analysis,” *Hastings Center Report* 44.s4 (September–October 2014): S23–S27, doi: 10.1002/hast.366.

35. Pius XII, “The Moral Limits of Medical Research and Treatment,” Address to the First International Congress of Histopathology of the Nervous System (September 14, 1952).

36. E. Coleman et al., “Standards of Care for the Health of Transsexual, Transgender, and Gender-Nonconforming People, Version 7,” *International Journal of Transgenderism* 13.4 (2012): 175, doi: 10.1080/15532739.2011.700873.

37. “The nature of sex reassignment precludes double blind randomized controlled studies of the result. . . . Transsexualism is rare, and many follow-ups are hampered by small numbers of subjects. . . . Many sex reassigned persons decline to participate in follow-up studies or relocate after surgery, resulting in high drop-out rates and consequent selection bias. . . . Several follow-up studies are hampered by limited follow-up periods. Taken together, these limitations preclude solid and generalisable conclusions. A long-term population-based controlled study is one way to address these methodological shortcomings.” Cecilia Dhejne et al., “Long-Term Follow-Up of Transsexual Persons Undergoing Sex Reassignment Surgery: Cohort Study in Sweden,” *PLoS One* 6.2 (February 22, 2011), e16885, doi: 10.1371/journal.pone.0016885.

38. P.T. Cohen-Kettenis and A.J. Kuiper, “Transseksualiteit en psychotherapie,” *Tijdschrift Voor Psychotherapie* 10 (1984): 153–166.

alone or with their families successfully integrated their identity with their biology.³⁹ Although permanent desistance rates are lower in postpubertal patients, a growing number of adult patients, some of whom had received cross-sex steroids for several years, either alone or in addition to surgery, have also experienced resolution of their gender discordance.⁴⁰

The basis for the heterogeneity of outcomes observed in response to psychotherapy remains unknown. Given the emerging evidence for a multifactorial etiology of gender dysphoria, the likelihood of resolution may depend on the contributing factors that are present in each individual. The strength and duration of social reinforcement may also influence outcomes. Another hypothesis is that this heterogeneity is due to variations in the skill and content of the psychotherapy offered by different practitioners. Among the most striking deficiencies of the available scientific evidence regarding treatment is the lack of properly controlled trials investigating the relative effect of alternative approaches to alleviating gender dysphoria. Therefore, there is insufficient evidence to conclude that the mutilation of normally formed and functioning sex organs is the only way to prevent suicide in transgender people. Given the existence of limited but encouraging data on the potential benefits of psychotherapy and the drastic and often irreversible effects of cross-sex hormone exposure, failure to investigate potential means of refining and optimizing psychological support represents a failure of the medical profession to satisfy the long-standing principle of evidence-based practice. It represents both bad science and bad medicine.

Regarding the requirement to preserve the whole person, the totality argument primarily rests on achieving the goal of suicide prevention. Although a few small, uncontrolled, and relatively short-term studies of cross-sex hormone administration coupled with social affirmation report decreased levels of depression and suicidal ideation in youth with gender dysphoria,⁴¹ one of the largest studies to date examining the long-term mental health of people with gender dysphoria who were treated with cross-sex hormones followed by surgery reports a suicide rate nineteen times greater than in the background population.⁴² Among the subjects of this study, rates of substance abuse, conviction for violent crime, psychiatric hospitalization, and

39. Kenneth J. Zucker et al., “A Developmental, Biopsychosocial Model for the Treatment of Children with Gender Identity Disorder,” *Journal of Homosexuality* 59.3 (2012): 369–397, doi: 10.1080/00918369.2012.653309; Kenneth J. Zucker, “On the ‘Natural History’ of Gender Identity Disorder in Children,” *Child and Adolescent Psychiatry* 47.12 (December 2008): 1361–1363, doi: 10.1097/CHI.0b013e31818960cf; and Devita Singh, “A Follow-Up Study of Boys with Gender Identity Disorder” (PhD diss., University of Toronto, 2012).

40. I. M. Marks and D. Mataix-Cols, “Four-Year Remission of Transsexualism after Comorbid Obsessive-Compulsive Disorder Improved with Self-Exposure Therapy: Case Report,” *British Journal of Psychiatry* 171.4 (October 1997): 389–390; and Walt Heyer, *Paper Genders* (NP: Make Waves Publishing, 2011).

41. See, for example, Annelou L. C. de Vries, “Young Adult Psychological Outcomes after Puberty Suppression and Gender Reassignment,” *Pediatrics* 134.4 (October 2014): 1–9, doi: 10.1542/peds.2013-2958.

42. Cecilia Dhejne et al., “Long-Term Follow-Up of Transsexual Persons.”

all-cause mortality were far above those in the background population.⁴³ A recent meta-analysis of forty-two studies reports a similar suicidality.⁴⁴ Claims that these disturbing outcomes are the result of social stigma are dubious, given that many of these studies were performed in countries, such as the Netherlands, where sexual diversity is generally praised rather than shunned. Although there is a dire need for further research, the existing data are insufficient to justify the claim that long-term suicide prevention is achieved through cross-sex hormone administration.

Principle of Double Effect

Some supporters have attempted to use the principle of double effect to justify the use of cross-sex hormones as a treatment for gender dysphoria. This argument, similar to the invocation of the principle of totality, acknowledges the harmful effects of the intervention in destroying normal reproductive function. The bad effect, sterility, is justified in relation to the good effect of suicide prevention. For one to apply this principle, it is necessary to satisfy each of its four criteria. First, the action performed must be morally good or, at least, morally neutral. In this regard, the moral agent is the one who gives regular oral or transdermal administration of sex steroids. When performed to correct a disorder of normal hormone secretion, this intervention is morally good. For example, giving estrogen to a woman with premature ovarian failure restores normal levels of this hormone, improving bone health.⁴⁵ Similarly, giving testosterone to a man with hypopituitarism enables the normal development of strength and lean body mass.⁴⁶

The second requirement is that there is proportionality between the good and bad effects. Here again, it can be legitimately argued that the good effect of preserving life through suicide prevention is equal or superior to the bad effect of inducing sterility.

The third requirement is that the bad effect (loss of normal gonadal function), while foreseen, is not directly intended. In examining this criterion in relation to the administration of cross-sex hormones, serious ethical problems become apparent. In attempting to treat gender dysphoria, the administered sex steroids—testosterone for women and estrogen for men—are intended to induce the development of secondary sex characteristics of the desired sexual phenotype. One could potentially argue that the loss of gonadal function is a foreseen but undesired consequence of the desired feminization of men and virilization of women. However, for women who wish to appear as men, normal menstruation also contributes to dysphoria. In this respect, the loss of normal ovarian function to induce amenorrhea is directly intended. Similar,

43. Ibid. Rates of conviction for violent crime were higher specifically among subjects who underwent sex reassignment surgery before 1989.

44. Adams et al., “Varied Reports of Adult Transgender Suicidality.”

45. Shannon D. Sullivan, Philip M. Sarrel, and Lawrence M. Nelson, “Hormone Replacement Therapy in Young Women with Primary Ovarian Insufficiency and Early Menopause,” *Fertility and Sterility* 106.7 (December 2016): 1588–1599, doi: 10.1016/j.fertnstert.2016.09.046.

46. Karen K. Miller, “Androgen Deficiency: Effects on Body Composition,” *Pituitary* 12.2 (June 2009): 116–124, doi: 10.1007/s11102-008-0121-7.

but perhaps less evident, is the desire to suppress normal testicular function to prevent the virilizing effect of testosterone in biological men.

The fourth requirement, which states that the bad effect must not serve as the direct means to achieve the good effect, is similarly problematic. As demonstrated in the consideration of intentionality, loss of normal gonadal function is a direct means to alter the outward appearance of an individual attempting to conform his or her body to the sexual appearance of the discordant gender identity. From this analysis, it is clear that cross-sex hormone administration cannot be ethically justified through the principle of double effect.

Future Directions

With a proper understanding of the anthropology of sex and with the precise application of the ethical principles of totality and double effect, it is clear that the use of cross-sex hormones for the treatment of gender dysphoria is immoral. Nevertheless, there remains a need for ethically permissible alternative interventions. In attempting to address this pressing knowledge deficit, the limits of bodily manipulation must be recognized and upheld.⁴⁷ Advocates and opponents of the current treatment paradigm share a desire to provide real and sustained help for individuals who experience a gender identity that differs from their biological sex. Medical practitioners, however, must not surrender the universally accepted standard of evidence-based medicine. An adequate solution to this urgent problem must await the results of properly designed and controlled clinical trials, which, to date, do not generally exist in the transgender population. Established principles of medical practice can guide efforts to respond in a compassionate manner. These should include uncompromised respect for human dignity and ongoing efforts to combat prejudice, bullying, and unjust discrimination. At the same time, any response must recognize biological reality. Treatment should include patient and family counseling to address primary and secondary psychological dysfunction. The provision of psychiatric care does not necessitate a definitive understanding of whether a patient will experience persistence or desistance of transgendered identity. Rather, reasonable goals can enable an individual to cope with any discomfort or stress related to the presence of incongruity between his or her mind and body. While awaiting the identification of effective, morally licit solutions to this difficult problem, physicians should remember that their first duty is to do no harm.

47. Willem Jacobus Cardinal Eijk, "Is Medicine Losing Its Way? A Firm Foundation for Medicine as a Real *Therapeia*," *Linacre Quarterly* 84.3 (2017): 208–219, doi: 0.1080/00243639.2017.1301112.